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NEUROPSYCHIATRY AND THE WAR

A BIBLIOGRAPHY WITH ABSTRACTS

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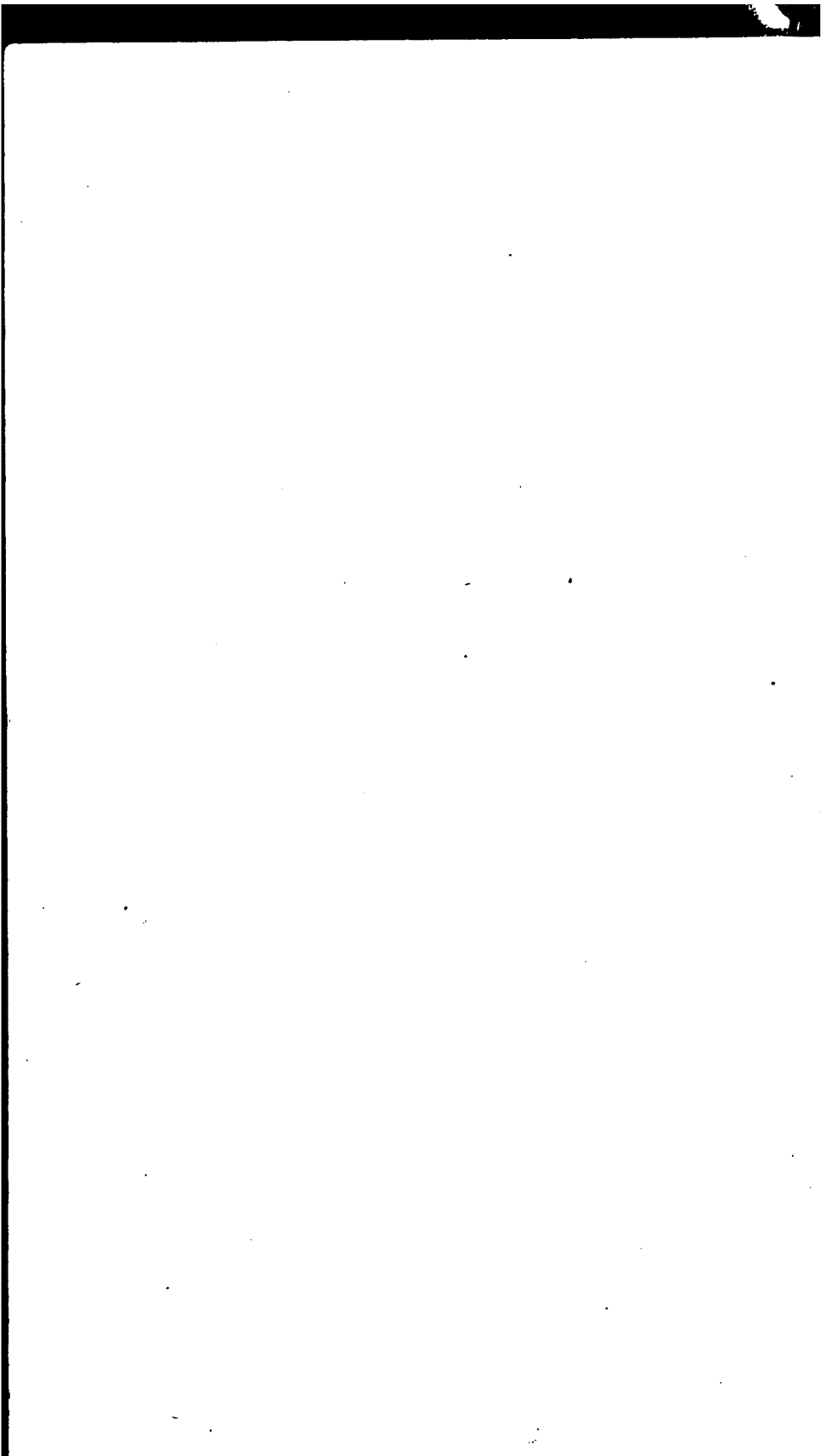
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PREFACE

The literature of military neuropsychiatry has become so voluminous since the outbreak of the war that it was found impossible to include, without serious delay in publication, abstracts of all important books and articles on this subject in the original volume, "Neuropsychiatry and the War." For this reason the War Work Committee of the National Committee for Mental Hygiene has issued Supplement I, which contains as much of this omitted material, together with part of the more recent literature on the subject published since the original volume was issued, as there was time to prepare in the three months after the publication of "Neuropsychiatry and the War." Owing to irregularity of receipt of foreign periodicals, difficulties in securing translators, and other obstacles, the amount of literature of many of the European countries abstracted in Supplement I is very scant. It is the hope of the War Work Committee that it may be possible to make accessible to date this omitted material, together with the current literature on the subject, by publishing quarterly bibliographies as additional supplements to "Neuropsychiatry and the War." Any future lists will be as inclusive as possible, but only material of special interest will be abstracted. In order to indicate, however, the scope of each book or article listed, a descriptive annotation will accompany every entry. These supplements, if issued, will be distributed free to psychiatrists and neurologists of the Medical Corps, and to libraries and institutions where the publication can be used to advantage.



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BRITISH LITERATURE

PERIODICALS ABSTRACTED

British Medical Journal, London

Lancet, London

Practitioner, London

Recalled to Life, London



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BRITISH LITERATURE

Maitland, E. P., and Campbell, Kenneth. Case of Temporary Blindness. *Brit. med. j.*, Sept. 15, 1917, p. 360

A sergeant, aged 49, was admitted to hospital with a temperature of 101.2°, and blind. He complained of some headache. Both fundi were healthy, the media were clear, and no thickening of the retinal arteries could be seen. The temperature slowly fell to normal in eight days, when *pari passu* with the reduction of temperature his vision began to improve, and fourteen days after admission he could see well enough to read a newspaper. He later returned to duty.

The usual causes of blindness unconnected with visible eye changes are hysteria, uremia, and acute retrobulbar neuritis. The case bore some relation to the last, but the pupils were undilated and normal in action, there was no pain on movement of the eyes, nor pain on pressure applied over the globes.

The case was considered to be due to some toxic condition of the blood, which caused either anesthesia of the rods and cones of the retina, or of the neurons of the visual cortical centres.—A. Ninian Bruce, *Rev. of neurology and psychiatry* 15: 332, Aug.-Sept. 1917.

Green, Edith M. N. Blood Pressure and Surface Temperature in 110 Cases of Shell Shock. *Lancet*, Lond., Sept. 22, 1917, p. 456-57

Green presents her observations on blood pressure and its relation to the physical condition of patients in the British Army.

It was found that 55 men showed on admission a pressure below 120 mm.Hg., and of these 25 were between 88 and 110. These were the severe cases of shell shock. Of the other 55, 28 were between 120 and 150 mm. Hg., and 27 between 120 and 180. Of those above 180 only 4 were severe cases. With the exception of 8 men, all showed subnormal surface temperature varying from 18° to 31.5°C. The temperature was taken in the hand with a surface temperature thermometer, the temperature of the air and a healthy control being noted at the same time.

All of the cases with a very low blood pressure were suffering from dreams which woke them in a state of terror, sweating, and trembling. Their hands were dusky and clammy, and most of them had a tremor. They showed a marked fatiguability and irritability; most of them were depressed and showed a great lack of self-confidence and initiative; all suffered from headache. On admission nearly all had dilated pupils.

An improvement in the general condition was coupled with a gradual rise of pressure. At the same time the dreams became less terrifying and there were fewer signs of fear. In some cases which had shown a return of symptoms—such as nightmares, tremors, headaches, or had some cause for considerable worry—it was found that there was a drop in blood pressure at the same time. In most cases there was a rise of surface temperature as the general condition improved, though any subsequent fall in surface temperature or blood pressure did not always coincide.

No case showed any organic lesion, and the urine was normal.

As a gradual rise in blood pressure was found to coincide with general improvement in condition, pituitary and thyroid extracts were given in order to see whether a general improvement could be obtained more quickly.

An interesting point was the almost constant relationship between the low blood pressure and terrifying dreams. It seems as though the vaso-motor disturbance which was produced at the time of the shock was rendered more or less

permanent by the constant repetition in dreams of the former terrifying experiences. At the same time the low blood pressure caused a cerebral anaemia and lessened mental and physical activity, which prevented the man from throwing off the effects of his imagination—thus a vicious circle being produced. gradual or rapid rise of blood pressure in nearly every case was accompanied by a change in the character of the dreams, the terror element being less marked.—J. B. H., Bost. med. and surg. j. 173: vii, x, Feb. 9, 1918.

Collie, Sir John. Management of Neurasthenia and Allied Disorders Contracted in the Army; Lecture Delivered at the Royal Institute of Public Health, June 1917. Recalled to life, Lond., no. 2: p. 234-53, Sept. 1917. Also in Mentalhygiene 2: 1-18, Jan. 1918.

That the war in Europe has been responsible for a large number of cases of functional nervous disease can scarcely be a matter for surprise to members of the medical profession. For some considerable time the tendency to neurotic manifestations has been on the increase among the male population of all highly civilized and industrial countries, and when an individual of this type has been subjected to the added stress and strain of modern warfare it is not surprising that sooner or later he should break down under the excessive pressure.

Col. Sir John Collie delivered in London some time ago an address on this subject. He pointed out that approximately there were 34,000 men in Great Britain who were drawing pensions because of their inability to serve on account of some functional nervous disease. Such men were by no means necessarily cowards, indeed many of the 34,000 had distinguished themselves by signal acts of bravery and when seemingly recovered many had expressed a wish to return to the front—were impelled thereto by a sense of duty. Of course they could not go because they were temperamentally and neuropotentially unfit for the work. The time for preventing these nervous breakdowns is, if possible, before the acceptance of the man in the army. There are a large number of men apparently physically fit who exhibit no symptoms which would justify the medical examination in rejecting them, and who yet will "crack" under the nerve-racking and emotion-straining experience of war as it is waged to-day. It has been announced recently that the Medical Department of the U. S. Army has decided to extend its psychological examination to all enlisted men and to all newly appointed officers of the army. The extension of this form of examination is due to the success which has attended the experiment of psychological examination made at Camps Lee and Devens. The purposes of the tests as outlined by Major Robert M. Yerkes in charge of the section of psychology of the surgeon general's office, are as follows: (1) To aid in segregating and eliminating the mentally incompetent. (2) To classify men according to their mental capacity. (3) To assist in selecting competent men for responsible positions. This decision of the War Department is a step in the right direction, and may aid in solving the problem of the neurasthenic drafted man, although there is little or no relation between mental deficiency and neurasthenia. The existence of an obvious tendency to functional nervous disease should be easily detected by a careful examiner, but it is extremely difficult, in fact impossible in the majority of instances, to diagnose a simple predisposition to neurasthenia. Therefore a large number of cases of shock will continue to be returned from the front and the object must be to treat these as efficiently as possible.

Sir John Collie, in the lecture above mentioned, says that medical treatment of no real value unless the medical men have confidence in themselves and can commandeer the confidence of the patient. Infinite patience, common sense at every turn, and real, but thoroughly disguised sympathy are essential in those who undertake the care of such cases. Massage, electricity, persuasion, occupation, light, graduated work, fresh air, good wholesome food, and above all a health

environment are essential adjuncts. The psychotherapeutic method of treatment has been found by experience to be wonderfully effective provided only that it is in the right hands. Nothing retards recovery so much as the flying visits of unthinking but kindly intentioned philanthropic lady visitors. Persuasive conversation should be systematically arranged for, in which the patient and doctor can have quiet talks, so that the man is led by tact and guarded sympathy to lay bare, what is, as it were, at the back of his mind. Nothing in the nature of psychoanalysis, however, is recommended. Collie's experience is that it is better that all patients should be isolated during the early part of their treatment. The calm restfulness of solitude has a peculiar effect in allaying irritability, and strange as it may appear, prevents morbid introspection. Isolation is not solitary confinement; a nurse is in frequent attendance. The short initial stage of isolation enhances the value of the suggestion of rapid recovery practised by the physician and nurses. Electrical treatment for these cases is of value, but the stoutest advocates of this method will not deny that the effect is intimately associated with the mysteriousness of the electric current. There is one proviso to make with regard to all treatment and that is, unless the patient desires to get well no treatment can cure him.—Med. rec. 93: 460-61, March 16, 1918.

Turner, William Aldren. Hospital Treatment of Shell Shock. Recalled to life, Lond., no. 2, p. 251-53, Sept. 1917

In *Recalled to Life*, No. 2, is an address by Lieut.-Col. Aldren Turner, C.B.M.D., in which he discusses the principles of the management of the shell-shocked and neurasthenic soldiers in the special military hospitals. These principles, four in number, were laid down early in the war, but they were subject to modification as our knowledge of these patients and of their disabilities became better known and understood. The first principle was segregation. For the most part the neurasthenic soldiers had been treated in institutions specially set apart for the purpose under the care of medical officers specially qualified to treat them. The adverse criticisms which were brought forward in opposition to segregation in the early months of the war had not been justified. On the contrary, its usefulness had been strengthened and extended by experience. These patients did not imitate each other, or in other ways react harmfully upon each other. On the other hand, it has been found that when placed in the general wards of a hospital, the sufferer from shell shock not infrequently was the butt of the other patients, who were unsympathetic and disposed to regard as trivial the tremors, stuttering speech, unnatural gait, and other symptoms which characterized so many cases of shell shock. The admixture of these patients, as had been suggested, with cheery companions suffering from non-nervous disabilities, might even be undesirable.

The second principle was to give the medical officers liberty to treat their neurasthenic patients along such lines as they considered desirable and which experience had shown to be of therapeutic value. There was no disorder to which the axiom "treat the patient and not the disease" applied with greater directness than to neurasthenia. This liberty of action was very necessary when they considered the different types of neuroses and psychoses which were admitted to the military hospitals under the guise of shell shock. Cases of exhaustion required rest in bed; paralytic cases required exercises and reeducation of the movements of the paralyzed limbs. The simpler forms of anxiety needed reassuring and explanation of the origin of their fears. The terrifying dreams which disturbed the sleep of so many men suffering from shell shock required to be analyzed and explained. The dreads and fears, delusions and hallucinations, and other morbid ideas required to be searched, investigated and understood. After this the readjustment of the patient's mental outlook towards his symptoms required to be taken in hand. It had been found that a

too constant and too frequent use of massage, of electrical applications, of baths, and of other physical methods of treatment assiduously practised at the spas, tended to accentuate rather than relieve the condition for which they were used.

The third principle was occupation. Quite a number of cases of war neurasthenia and genuine shell shock in the early stages derived great benefit from a "rest cure," but it had become increasingly obvious, with more experience and knowledge of these cases and their causes, that rest and isolation had only a limited application. The best results were obtained by a judicious combination of a suitable psychotherapy and occupation, mainly of an outdoor kind. It was useless to attempt to cure by work alone, a man whose mind was depressed by anxiety and forebodings attributable to circumstances which he did not understand; but if by judiciously selected work and carefully regulated outdoor occupation, his sleeplessness was mitigated and his circulation and general nutrition improved, the value of the mental therapeutics was enhanced and supplemented.

The fourth principle was compensation. It was recognized early in the war that a large number of soldiers who suffered from shell shock and neurasthenia would be unfit to return to military duty, although their ability to carry on their civilian work after discharge would not be more than temporarily impaired. As it had been recognized for a long time that some forms of nervous disability were prone to exaggeration, or might even be made chronic by undue consideration, it was determined that nothing should be done by the payment of pensions which would retard or prevent the recovery of soldiers who had been disabled from nervous breakdown. It was thought, therefore, to be desirable to recommend the granting of a money bonus, in place of a pension to selected cases of neurasthenia and functional nervous disorder occurring amongst soldiers when treatment in hospital was no longer necessary and the patient was unlikely to be fit for further military service.—Med. rec. 93: 726, April 27, 1918.

Viets, Henry. *Shell-Shock; a Digest of the English Literature.* J. of Amer. med. assoc. 69: 1779-86, Nov. 24, 1917.

The author reviews the English medical literature of shell-shock, making frequent quotations from the authorities to whom he refers. The first report of cases appeared in 1915 under the term of "shell-shock." The symptoms are varied, covering nearly all the functional and hysterical phenomena described by authors. The importance of the problem cannot be overemphasized and, if it is possible, those subject to the disease should be eliminated from among the recruits before they are exposed to the perils of trench warfare. The neuropathology of the condition has been best studied by Mott. In the fatal cases, the symptoms of shell-shock resemble those of the gas poisoning, which most neurologists hold cannot alone produce shell-shock. The treatment is largely moral as well as physical and seems to have been well worked up in the British hospitals. The writer asks in conclusion: "What can the Medical Corps of the United States Army do toward the prevention of shell-shock? Obviously it must be checked at the recruiting station or in the cantonment camps before the men leave for France. There ought to be no question in the minds of the medical officers as to the advisability of checking this condition at the source, for no one who has seen the results of modern warfare on the unstable mind can do otherwise than urge such measures with utmost vigor. It becomes the duty of each medical examiner to weed out from the recruits such men as are liable to shell-shock. By so doing an enormously important advance will be made in our army, as judged by the experiences of the other armies of the Allies. We have been strongly advised by Osler to check the enlistment of the neurasthenic. It is obviously difficult to pick him from the crowd, as he may come up in good form, and be eager to go overseas. But it is not so difficult with the mentally deficient, the 'queer stick,' the 'boob,' and the butt of the practical jokers. He is soon observed by both officers and men, and if one singles him out and talks with him for

five or ten minutes, one ought to have no difficulty in deciding his fitness for active trench warfare. One ought also to look with especial care into the past history of the depressed, the man who worries unnecessarily, the self-conscious, the shy, the high-strung, excitable man, the violent-tempered, the nervous, the timorous, the easily frightened, or the neurotic individual. Any or all of them may make poor first-line-trench soldiers. The task is difficult, but that in itself should not prevent us from trying. What an advantage it would be to our army officers, and what a saving of life it would mean to our men, if the shell-shock patients could be eliminated from our forces that will fight overseas! Such a utopia is probably impossible, but I feel confident that careful weeding out of the mentally unfit will certainly greatly reduce the numbers of shell-shock cases that are bound to appear in our casualty lists."—*J. nerv. and ment. dis.* 47: 146-47, Feb. 1918.

Jones, A. Bassett, and Llewellyn, Llewellyn J. Malingering, or the Simulation of Disease.* Phil., Blakiston, 1917. 708 p.

The present war has brought to the front a subject which is greatly neglected in peace times. To be sure, prison physicians, psychiatrists, and insurance examiners are all more or less familiar with malingerers, but now that the world has been combed for soldiers, and these exposed to terrific strain, we find wholesale malingering. Artificially induced abscesses, sugar added to the urine, soap-chewing, convulsive efforts, these are commonplaces in the big armies, and have been described in many papers. Jones and Llewellyn, however, have undertaken a monograph on the subject and produced an admirable work. After an exhaustive study of the subject as a whole, with its psychology and medico-legal aspects, the authors go into great detail in describing malingering in its relation to various systems of the body; this part of the book is systematic and thorough, no vague generalizations are indulged in, but the writers are specific and practical. In short, they exemplify their own doctrine that a diagnosis of malingering must not be founded on incomplete examination, imperfect observation, or hasty inference. This work might well be added to any practitioner's library; to the military surgeon it is invaluable.—*Med. rec.* 93: 474, March 16, 1918.

Mott, Frederick W. War Psychoneurosis. *Lancet*, Lond., 1: 127, Jan. 26, 1918

While admitting that from commotion or prolonged stress of war, a stable nervous organization may develop an acquired emotivity, Mott says that it seems that the psychogenic or autosuggestive factor, acting on a prewar emotive brain, is the chief determining cause of war psychoneurosis, and the neurotic patient's protest of anxiety lest he be boarded out of the service, or not allowed to go to the front, is really in many cases an indication of an exhausting conflict which has been going on continually in his mind between the self-conservative instinct and the moral obligation of duty and patriotism, which has its roots in the social herd instinct.—*J. A. M. A.* 70: 1263, April 27, 1918.

Forster, Frederick C. Management of Neurasthenia, Psychasthenia, Shell-Shock and Allied Conditions. *Practitioner*, Lond., 100: 85-90, Jan. 1918

In the *Practitioner* for January, 1918, is published a paper on the management of neurasthenia, psychasthenia, shell shock, and allied conditions, by Dr. Frederick C. Forster, in which the author points out that while neurasthenia may be of different types the sufferers nearly always have in common certain symptoms, the most prominent being depression, lassitude, often combined with a curious restlessness, insomnia, loss of power of concentration, failure of memory, abnor-

* Published originally in London by William Heinemann, 1917.

small sensations in different organs, tremblings, dragging pains, palpitation, loss of appetite, and loss of vitality. This is a true word-picture of the symptoms of a neurasthenic, not that they are all contained in one sufferer, but they are the conspicuous symptoms that are apt to occur. Worring over his complaints and imaginary complaints is a characteristic feature of the sufferer from neurasthenia. He attaches undue importance to all his disagreeable sensations, and is especially anxious with regard to the tachycardia which is a frequent accompaniment of the condition, imagining it to be a sure indication of a serious heart lesion.

The cure of a neurasthenic involves infinite patience and tact on the part of the medical attendant. First of all, in treating a case it is incumbent on the medical man to make a correct diagnosis, and definite disease of any organ must be eliminated before it can be said to be a true neurasthenia. Assurance must be had that the condition is not owing to toxemia, influenza or gastrointestinal, for the depression accompanying or following a toxemia of this description cannot be labeled or treated as a neurasthenia. Forster holds that the keynote of the management, a term he uses purposely in preference to treatment, is to induce "self-forgetfulness," to do away with the inertia, to improve the morale by encouraging a feeling of independence, and to adjust the patient's life so that petty troubles and annoyances take their subordinate position, whether this is achieved by some wholesome occupation, by drugs, or by some of the many other methods which may be employed.¹ The Weir-Mitchell rest cure is recommended, and it is pointed out that, apart from the resting, the chief essential is to procure sleep for the patient. As for drugs, bromamide is to be preferred to either paraldehyde or the bromide, and for the general excitation mentobromated camphor with codium is useful. It is not advisable, however, to prolong the Weir-Mitchell treatment after the acute stage has passed off.

It really is an interest in life that such people need. The author is not an advocate of drug treatment. Regarding change of air, scene, and climate, which really means change of environment, the suggestion is put forth that it is not always possible to change the physical environment, yet much, very much, can be achieved by altering the mental or psychical environment, and the power of creating a special mental environment is helpful in turning what is repulsive into what attracts. In short, in neurasthenia it is the person, rather than the disease, that demands treatment. Finally, a return to work or occupation is likely to be of greater benefit by far than rest cures, that is to say, in a large proportion of cases.—*Med. rec.* 93: 464-65, March 16, 1918.

Savage, Sir George H. Mental War Cripples. Practitioner, Lond., 100: 1-7, Jan. 1918

George H. Savage is of the opinion that a very large number of soldiers and sailors will, after the war, be found more or less crippled, that is, unfit to perform their normal and accustomed duties, and that they will need special treatment and in some cases will have to learn fresh work. For such patients, physical or mental cripples, he believes that colonies in the country will be found to be the most beneficial. It will have to be considered whether such colonies should be special or general. His own opinion is that for epileptics the colony should be special, but that for other nerve disorders a union with sufferers might be found useful, as drawing the patient away from his subjective state to one of more active objective sympathy.—*N. Y. med. j.* 107: 472, March 9, 1918.

Wolfsohn, Julian M. The Predisposing Factors of War Psychoneuroses.* Lancet, Lond., Feb. 2, 1918, p. 177-80

Julian M. Wolfsohn finds that throughout the massive literature which has sprung up within the past three years one reads passing references mostly to the

* Practically the same article was published in *Journal of the American Medical Association* 70: 803-08, Feb. 2, 1918.

relation of the symptoms of war psychoneuroses to a previous neuro-potentially unsound soldier; most authors have elicited an inherited or acquired neuropathy in the majority of patients afflicted with shell shock, neurasthenia, or any of the neuroses resulting from the strain of the war. But enough actual specific data on the inherited and acquired neurotic factors in these cases have not been published. Before drawing generalizations on this subject, one should try to answer some of the following pertinent questions: (1) Of what kind of forbears is the patient a representative? (2) What is the personal temperament of the patient? (3) What was his former calling, and how has he shouldered his responsibilities during active war service? (4) Do acquired war psychoneuroses occur, and what are the causes thereof? (5) What is the relation of the last "shock" to the production of the war neurosis? (6) Why do not all soldiers suffer from war neuroses? Before answering any of these questions one must examine all available data, up to the time of active service, and also the actual causes and circumstances exciting the outbreak of the neurosis, realizing that every individual's nervous system will react according to his inherited tendencies superimposed on the effects produced by environment. Therefore the object of this special work is to make an intensive study of the causal factors of war neurosis as presented by the family and the personal histories (up to the time of, and including the cause of, disablement) of 100 cases of war psychoneuroses—viz., shell shock, neurasthenia, hysteria, and exhaustion. Insane cases are not included in this paper. As a control 100 cases of somatic injuries produced in the firing-line—viz., enucleation of an eye, fracture of the skull, jaw, femur, amputations, and wounds, with or without sepsis, have been similarly studied. The exhaustive history in most of the cases was given by the patient himself. In some cases the help of the wife or mother was necessitated to get as much first-hand available data as possible. From this study of 100 cases of war psychoneuroses and 100 cases of somatic injuries produced in the firing line Wolfsohn finds he can draw the following conclusions: Cases of war neurosis are very rarely associated with external or somatic wounds. The vast majority of the psychoneurotic cases studied were among soldiers who had a neuropathic or psychopathic soil. In 14 per cent of these cases a family history of neurotic or psychotic stigmata, including insanity, epilepsy, alcoholism and nervousness, was obtained, whilst a previous neuropathic constitution in the patient himself was present in 72 per cent. A gradual psychic shock from long-continued fear, together with the sudden change from quiet peaceful environment to the extraordinary stress and strain of trench fighting is the chief predisposing cause of war psychoneurosis in soldiers with neuropathic predisposition. In fact, these factors may be the cause of the neurosis *per se*. The history of the individual previous to enlistment has an influence on the character and gravity of the symptoms of the neurosis. Acquired neuroses with their less severe symptoms appeared only after excessive fatigue, with the concussion from the high-explosive detonation acting as the exciting factor. On the other hand, in the same abnormal environment, and with the same powerful factors obtaining, wounded soldiers do not suffer from war neuroses except in rare instances. In the wounded soldiers studied no neuropathic or psychopathic stigmata occurred in the family history. Previous neuropathic tendencies were found in 10 per cent of these patients (controls), all of which number presented mild neurasthenic symptoms. Hysteric manifestations, such as monoplegia in a wounded limb, are occasionally encountered in injured soldiers.—Med. rec. 93: 382-83, March 2, 1918.



FRENCH LITERATURE

PERIODICALS ABSTRACTED

Annales de Médecine, Paris

Archives Médicales Belges, Paris

Bulletin de l'Académie de Médecine, Paris

Bulletin de la Société des Hôpitaux, Paris

Paris Médical

Progrès Médical, Paris

Revue Neurologique, Paris



FRENCH LITERATURE

Pitres, A., and Marchand, L. Observations on Concussion Syndromes Simulating Organic Affections of the Central Nervous System (Quelques observations de syndromes commotionnelles simulantes des affections organiques du système nerveux central) Rev. neurol., Paris, 23: 298-311, Nov.-Dec. 1916

In the first patient a meningitic syndrome developed soon after shell concussion; severe headache, retraction of the head, Kernig's sign and unilateral ptosis. The spinal fluid had a yellow color. He afterward developed a mental condition resembling catatonic dementia præcox. Fourteen months after the injury he was reëxamined and all symptoms were absent except slight weakness of the legs. In the second case there was a period of unconsciousness following the concussion, mental confusion, memory disturbance. The knee and Achilles jerks were lost. Speech was tremulous and hesitant. Except for the persistence of some ideas of persecution, the patient recovered in sixteen months. The third patient presented a cerebellar syndrome with the addition of some mental disturbance. The case simulating multiple sclerosis had lost knee and Achilles jerks. The case simulating tabes had no lightning pains, but in other respects was typical (the Wassermann reaction was positive). The author draws two conclusions: The diagnosis in these cases is difficult. These cases have as a basis an organic lesion. They are not hysterical or simulation.

Alterations in speech are divided into three classes: mutism, a stammering speech, and a high-pitched voice in which the patient speaks rapidly and irregularly.

Mental childishness, in a patient twenty-one years old, developed as a condition following shell shock. He talked and acted like a child, occupied his time sailing boats, etc., and frequently cried in a childish way. There were no disorientation, no hallucinations and the neurologic examination was negative.

The fundamental question in the determination of the pension allowance in nervous or mental cases is whether or not the condition present is due to service in the war. The fatigue and emotions of war may act as a determining cause and the value attaching to the predisposing cause, whether hereditary or acquired, is the same as in civil life.—J. nerv. and ment. dis. 47: 63-64, Jan. 1918.

Ferrand, Jean. Hystero-traumatism with So-called "Physiopathic" Syndrome Cured by Re-education (Hystero-traumatisme avec syndrome dit "physiopathique" guéri par la rééducation) Progrès méd., Paris, 33: 81-83, March 10, 1917

Attempts have been made to classify the numerous forms of paralysis resulting from wounds in battle. Some are due to direct lesions of peripheral nerves and their roots; others are hystero-traumatic in nature. Between these two extreme varieties there is a particular clinical type which must be isolated from others—paralysis of reflex origin.

Certain neurologists describe a form of paralysis characterised by special trophic, vaso-motor, electric, and reflex troubles in the paralysed limb, such phenomena being sufficient in their eyes to prove the organic origin of the paralysis, which explains their therapeutic failures. They infer from this the uselessness of even heroic psycho-therapeutic measures. This inference would seem to be somewhat premature, as observations on a case in point go to prove the contrary. It was that of an infantry soldier who, in May, 1915, was wounded in

the right calf. Healing followed a normal course, and was completed in a few weeks. During convalescence he began to walk badly owing to alleged pain in the limb, which assumed the position of equinus with contracted Achilles tendon. A surgeon, believing that the lesion was really organic, severed the tendon, restoring mobility to the foot, which could now be easily placed flat on the ground. He could, however, walk no better after the operation, and, although the equine phenomenon could no longer be produced, owing to section of the tendon, the leg assumed another vicious position, being semi-flexed on the thigh with immobilisation of the knee-joint. He could only barely put his foot to the ground, and was extremely lame, walking with the help of a crutch. Again a surgeon, never suspecting a neuropathic affection in the case of a wounded man, did a tenotomy of the flexor tendons of the leg, putting it up in a plaster apparatus to maintain extension of the limb. The result was satisfactory only to a slight extent, but he walked without a crutch when he was sent to a neurologic centre in December, 1916.

He walked with two sticks, the right leg in a position of forced extension on the thigh, and flexion was impossible. The first care was to seek for evidence of a lesion of the terminal branches of the sciatic, and especially of the internal popliteal branch. There was no true motor paralysis, but relative weakness of all active movements. All passive ones were possible except flexion of the knee. There was no sensory trouble; and all the reflexes were normal, a little stronger perhaps on the affected side. Trophic troubles were very marked. All the distal part of the leg was oedematous, cyanosed, almost a violet tint, very cold as compared with the sound limb. The skin was thin, attenuated, and the toes crossed each other to some extent. In the whole foot and lower third of the leg there was well-marked muscular hyperexcitability. The slightest tap on the muscles brought on violent contractions, and even dissociation of movements which are not usually independent in action, such as adduction of the great toe, or abduction of the little one. In a word, the case presented all the troubles attributed to reflex contractures or to the phenomena called "physiopathic".

The mental state was peculiar. A working miner, he weeps at the least examination, manifests absolute terror at the slightest touch of his affected leg, and tremblingly implores one to cure him.

To sum up: here was a wounded patient with a paralysed limb and contraction of the knee, who presented all the signs of the paralyses called "reflex", who has been subjected to a series of tentative therapeutic measures which have failed; a characteristic type.

As to treatment the patient was brought into our re-education ward, and, after having for a considerable time been subjected to fatigue by more or less violent physical exercises, the contracture was, as it were, brutally overcome. After half an hour of passive movements of flexion and extension of the leg, and after showing him how he could bend and straighten his limb, he was induced to do this voluntarily. These active movements were aided and sometimes provoked by galvanic stimulation of painful intensity. In the end he was able to walk slowly, while he bent both knees fully, and, after a treatment lasting about two and a half hours, he was cured.

The case was a particularly bad one, for surgical immobilisation had caused intra-articular adhesions in the knee which it was necessary to rupture. A slight amount of hydrarthrosis followed next morning, but a few days later he walked like any normal person.

This, though a remarkable case, is not a solitary instance of the kind, and Dr. Ferrand has published the general result of his researches on the subject. The clinical type which has been sought to be created does not seem sufficiently differentiated. We need only cite in proof the successive denominations which have been given it. The term "reflex contracture" assumes a condition which very often does not exist, for there is flaccidity in many of these paralyses.

Moreover, the term "reflex" implies a pathogenic idea, which is already abandoned by the creators of the clinical type. It has been designated a "physiopathic disorder", a term which is not very precise, and has hardly more significance than the old term "functional". In the minds of the authors this term "physiopathic" would imply the idea of an organic lesion, or at least one not functional in character. And the syndrome thus created is, in their descriptions, opposed not to an organic, but to an hysterical syndrome. In this view Dr. Ferrand cannot share.

He concludes his article with the following summary:

(1) Physiopathic symptoms exist, but they do not constitute an independent clinical syndrome. Many patients presenting these special symptoms, separate or combined, are cases of organic affections with lesions of peripheral nerves; moreover, direct and not reflex.

(2) There is but little relation between the reflex lesions described by Charcot as occurring in chronic arthritic cases and post-traumatic lesions. These latter are, moreover, described by him also amongst the hystero-traumatisms.

(3) The symptoms are not completely new.

(4) They are to be found to-day in many wounded who do not present any organic lesion, but merely ordinary hystero-traumatisms.

(5) They do not constitute any contra-indication to psychotherapeutic treatment, even of an heroic kind, and these patients are cured as well as the others. In any case, from the fact of a failure of cure it is not to be inferred that they are not the subjects of hystero-traumatism; for some succeed where others have failed, of which the patient whose case has been recorded is an example.

(6) From a medical and military point of view, such patients (when they have not been attacked with organic affections) should be considered and treated as cases of hystero-traumatism. It would be dangerous to make them out to be organically diseased or to treat them as such, for the contagion of example would make ravages in neurological centres.

(7) To cure these patients we must employ all the most energetic means which the authorities have placed at our disposal, from moral suasion to the most painful electric currents. In this way multiple successes are achieved, and the army recuperated with vigorous subjects.

Such are the conclusions to which Dr. Ferrand and his colleagues have been led by a practice of eighteen months in one of the most important neurological centres in France.—T. Drapes, *J. ment. sci.*, Lond., 63: 602-04, Oct. 1917.

Landau, Principle of Psychical Isolation in the Treatment of Functional Nervous Disturbances (Le principe d'isolement psychique dans le traitement des troubles nerveux fonctionnels)
Bull. Acad. méd., Paris, 77: 701-04, May 29, 1917

Landau describes a new mode of treatment which he has found of great value in most cases of functional nervous troubles in warfare; he has thus treated about fifty cases. The patient is brought into the presence of other patients who present similar symptoms, but of an organic nature. A detailed clinical examination of the patient is then made in the midst of his fellow-patients. If, for example, his case be one of a functional causalgia, the physician reviews briefly the history of the case, its mode of production, and the destructive signs of these conditions. In the case of a functional palsy of a nerve, the physician discusses openly before all the patients the electrical changes, and then makes an electrical examination of the functional case and of an organic one. As a rule, after a few of these public demonstrations and lectures, and sometimes from the first one, there is benefit to the patient. By means of this kind of procedure Landau claims that a state of "psychical isolation" is set up. He describes it also as a sort of bringing the functional patient face to face with

himself. The application of the treatment must to some extent vary with the particular case. Three cases are described to illustrate these points.—L. J. Kidd, *Rev. of neurology and psychiatry* 15: 334-35, Aug.-Sept. 1917.

Hoven, **Mental Diseases and the War.** *Archiv. méd. Belges*, Paris, May 1917

Hoven states that he does not intend to go deeply into this subject, and contents himself with a brief analysis of the material which has come under his observation as military alienist during the past 14 months. Out of 300 cases, 28 were examples of post-traumatic psychoses such as follow trauma, cerebral commotion or moral shock. In 11 of the 28 there had been an actual injury to the cranium, while in 12 others shells had exploded close to the victims. Of the 28 patients, 16 presented evidences of mental confusion, and 8 of melancholia. There were 2 cases of dementia praecox, one of which the author describes, adding that in post-traumatic psychoses the possibility of dementia praecox should always be borne in mind.

With the exception of 24 patients whose insanity dated from before the war, the remainder of the material (256 cases) includes the ordinary psychoses of the alienist, viz., dementia praecox, 61 cases, and melancholia, 52 cases, followed by acute confusional insanity, with 16 cases, and progressive general paralysis, with 14 cases. Other psychoses occurred only in scattering figures (manic-depressive, mental disequilibrium, alcoholic, etc.) However, under ordinary psychoses are comprised idiocy and imbecility, with 62 cases; i.e., the mental ailments were found to be associated with subnormal mental development. This contingent was, of course, the result of hasty selection during mobilization. The subjects presented either mental confusion, melancholia, or nervous crises. Latent mental weakness was in part brought out by alcoholic abuse. Those actually insane before the war were mostly volunteers suffering from paranoia, paraphrenia, epilepsy, and alcoholism.

The author states there is no specific war psychosis. The alleged "battle hypnosis" is no more than acute mental confusion with dream hallucination, occurring especially in post-traumatic psychoses. These patients are very wakeful, with an exaltation of psychic automatism and a sensorial erethism. Acute mental confusion is characterized in general by lacunar amnesia, which disappears slowly, and persists after other symptoms have vanished.

Simulation of insanity is rare, but dementia praecox often passes at its onset for simulation because the victims indulge in silly, absurd, affected behavior. In true simulation the patient is always abnormal, a psychopath. In contrast with actual simulation, exaggeration is common. Psychopathic deserters are not uncommon, and much care is necessary for the proper fixation of responsibility.

By what mechanism does warfare cause insanity? No one knows now, but after the war is over it may be possible to answer this question. No doubt insanity is produced by a commingling of psychic and somatic insults. Home-sickness, loss of sleep, fatigue, at once suggest themselves, and we may add apprehension of danger, shell concussion, etc. Hereditary taint and history of neuropsychic manifestations are very common; in fact, predisposition in some form is almost universal. In some material, alcoholism, whether as effect or cause of predisposition, is present in a third of all cases.

The practical aspect is diagnostic and not therapeutic. But few of these men are fit for duty, for they can seldom react properly to discipline. They must be mustered out, and, if necessary, interned. The best modern treatment is life in farm colonies, which results in more or less improvement. The inoffensives are able to do useful work for the army in various capacities—basket-weaving, shoemaking, woodworking, baking, etc.—*Med. rec.* 92: 637, Oct. 13, 1917.

Guillain, Georges, and Barré, J.-A. Alterations of Pupillary Reactions in Shock due to Bursting of Large Shells, without External Wound (*Les troubles des réactions pupillaires dans la commotion par éclatement de gros projectiles sans plaie extérieure*) Bull. Acad. méd., Paris, 78: 158-59, Aug. 28, 1917

A study of twenty-six cases of recent shell shock; the possibility of even a minimal wound of the eyeball was excluded. The pupillary changes comprised mydriasis; inequality of pupils with or without unilateral or bilateral loss of light-reaction, Argyll-Robertson pupils, or the paradoxical light-reaction. The pupillary changes were commonly transitory, lasting from three to twenty days or longer, and ultimately disappeared. In six of the cases there was xanthochromia of the cerebrospinal fluid with a slight meningeal reaction. The question is raised whether a xanthochromic or blood-stained cerebrospinal fluid, rendered toxic by haemolysis, may not act on the root-fibres of the cranial nerves either on the centripetal or the centrifugal limb of the reflex pupillary arc, or whether small basilar clots may compress the root-fibres. The central origin of these pupillary changes by small intra-peduncular haemorrhages is held to be unlikely. The writers incline to the belief that most of these cases are of peripheral origin, either a true commotion of the retina or of the nerves of the intrinsic eye-muscles, resulting in a temporary asthenia of one or both of these muscles.—L. J. Kidd, *Rev. of neurology and psychiatry* 15: 332, Aug.-Sept. 1917.

Roussy, Gustave, Boisseau, J., and d'Oelsnitz, M. Psycho-neurotic Contracture of Foot or Hand (*Les acro-contractures et les acro-paralysies*) *Annales de méd.*, Paris, 5: 515-44, Sept.-Oct. 1917

This profusely illustrated article reviews the experiences with 141 cases of contracture or paralysis after minor wounds of the region.—J. A. M. A. 70: 890, March 23, 1918.

Crinon, Advanced Psychiatric Centers. *Progrès méd.*, Paris, 33: 364-65, Oct. 27, 1917

Psychic changes should be recorded as scrupulously as the organic, writes Crinon. It is now officially ordered that the concussion syndrome has to be specified on the card. The "psychically disabled" should have their record as complete from the first as is the rule for the physically maimed. This would permit also suitable measures from the very first, when they are much more likely to prove effectual. The influence on the brain of physiologic disturbances from shell-shock or toxic infections should be arrested as early as possible. To neglect this allows the psychic changes to deepen and crystallize into delirium or confusional states. All this requires advanced psychiatric stations. Their existence is still further justified by the important task of sifting out the men to be sent to the nerve centers and the psychiatry centers farther back from the front. Many men only lightly affected could do well in them and be promptly restored to full duty. Sent back into the interior, their psychic disturbances become more and more confirmed and durable. At the best, the men are returned after months of convalescence when, if they had been given specialist treatment close to the front, they would have been in the ranks again in much less than a month. Toxic delirium of alcoholic origin is often mistaken for a more permanent trouble. It requires only a special course of internment and treatment which is as available in a well-equipped advanced psychiatric station as elsewhere. Men subject to convulsions can also be kept under observation here, and the nature and number of their attacks determined. Crinon thinks it is as absurd to exempt men from service on account of a single epileptic seizure—which is now the regulation—as to exempt those who have not good teeth.—J. nerv. and ment. dis. 47: 147, Feb. 1918.

Damaye, Henri. *Psychiatry in the Army.* Progrès méd., Paris, 33 : 362-64, Oct. 27, 1917

Damaye analyzes 638 cases of mental or nervous affections that passed through his service last year. The mental disturbances were usually transient when the men were kept back from the front. The proportion of the persisting and incurable cases is surprisingly small in comparison to the more or less prompt recovery of the others. The mixed cases are especially numerous, namely, those in an intermediate stage between mental debility and dementia præcox, with and without delirium, or between hebephrenia and actual loss of mental balance. Hysteroepilepsy and hysteroneurasthenia were particularly frequent. The various types of mental anomalies are listed; the largest group was 71 cases of melancholia with notions of persecution; 39 cases of melancholia with a neurastheniform state; 51 of acute brief attacks of delirious excitement with hallucinations, and 37 of simple mental debility. In 24 cases there was desire to commit suicide; in 19 malaria was commencing, and in 399 there was slight albuminuria, with more or less perfect compensation of some heart defect. The albuminuria disappeared in most of them after a week of rest, but in others it persisted unmodified. The etiology of these nervous and mental disturbances is complex, predisposition, emotions, intoxications and fatigue all coöperating. The attacks of convulsions nearly always coincided with exhausting fatigue. Syphilis is a predisposing factor in the mental disturbances, and a combination of malaria and alcoholism, but all the mental and neuropathic troubles and even the syndrome of general paralysis can be started by some concussion mishap. This "presses the button" as it were. Treatment in all cases was to give at once a bath at 37° C. for one half hour if the man is tranquil, and for an hour at 40° C. if he is excited. A calomel purge was then given and the man was put to bed. The baths are repeated daily and no food but milk is allowed for two or three days. If the urine findings are negative, he is then given the restricted and then the full milk-vegetable diet. By this means the effects of the digestive disturbances, etc., are overcome. No wine is ever allowed; milk or "glyzin" are the only beverages given. The patients are all given, besides, a solution of 40 drops of tincture of iodine in 100 gm. gum mixture, fractioned, during the day. This is kept up for five to ten days. It serves to sterilize the digestive tract, promote leukocytosis, and acts as a general tonic. Cold baths are not advisable, but, if conditions call for it, a daily injection of 5 cc. of sodium cacodylate is given. When there is much mental distress, morphine is the resource and the much excited patients are given, beside the baths, 4 gm. of chloral in 120 gm. of gum mixture at night and possibly a very cautious injection of hyoscin hydrobromate. The most practical arrangement for the psychiatric service is to have an advanced station, moving with the front lines, and, farther back where all is quiet, a psychiatric center and a neurologic center to which the men can be evacuated from the advanced station. The evacuation should always be in charge of specialist attendants.—J. nerv. and ment. dis. 47: 150-51, Feb. 1918.

Cheyrou, *Asthenia from Overexertion at the Front.* Progrès méd., Paris, 32 : 378, Nov. 10, 1917

The regimental physician often encounters pathologic conditions for which fatigue is the main factor. Cheyrou has found that this was the clue to many clinical pictures, and that improvement promptly followed treatment addressed to the fatigue. Lumbago is the simplest and earliest form, and the horizontal position for twenty-four hours banishes it as a rule. Fatigue fever is not uncommon, after special and prolonged exertion, with constipation, pains back of the eyes and in the back and along the tibias, with acceleration of the pulse and

rise of temperature. All of this may disappear under a few days of bed rest, repeated laxatives and restriction to water, with administration of quinin. In the severer cases the digestive apparatus, kidneys or heart may bear the brunt of the attack. Some of the men returning from the trenches at Verdun had reached such a stage of autointoxication from the prolonged constipation that enteritis followed and several weeks elapsed before normal conditions were restored. The nervous system shows the effect of excessive fatigue in various ways that he describes. These asthenic states, scarcely known before the war, are prevalent, and reduce the resisting power to infections. Prophylaxis should include measures to keep the diet varied and oppose constipation. Suitable provisions for sleeping would aid much in proper recuperation. Overexertion might be avoided by better distribution of energy and labor. The watches should be relieved oftener, and supplementary rations and hot drinks supplied in the hardest sectors. As fatigue reduces the alkalinity of the blood, alkalies should be supplied artificially, and diuretics and laxatives given to keep the emunctories open. Cheyrou suggests in treatment progressively large injections of strychnin to reinforce the nervous system, giving drops of epinephrin to restore muscular tone. He advises further utilization of physiologic serum with epinephrin. Administration of extracts of the suprarenal capsules has aided materially in overcoming asthenia and hastening elimination of toxins. Extract of testicles might be given with it, concluding with a course of tonics and means to recalcify the organism.—J. A. M. A. 70: 350, Feb. 2, 1918.

Guillain, Georges, and Barré, J.-A. Transient Sphincter Disturbance from Shell Shock. Bull. Soc. méd. des Hôp., Paris, 41: 1110, Nov. 16, 1917

Guillain and Barré report twelve cases of complete retention of urine or incontinence of urine after shell concussion without direct contact. Such sphincter disturbances are rare as they have encountered only these twelve cases among several hundred men with shell shock.—J. A. M. A. 70: 815, March 16, 1918.

Crouzon, O., and Mauger, N. Frequency of Infectious Antecedents in War Tachycardias. Bull. Soc. méd. des Hôp., Paris, 41: 1237, Dec. 7, 1917

Crouzon and Mauger state that in ninety-six cases of tachycardia in soldiers on active service they found over 50 per cent with a history of typhoid, acute articular rheumatism or other infectious disease, nearly all before the war. In four other cases the tachycardia developed after gassing; in four after concussion, and in two after a wound of the chest. Dumas, in the discussion that followed, remarked that he had sometimes found tachycardia an early symptom of pulmonary tuberculosis. He added that some of the candidates for the aviation course came from the front with tachycardia, but it subsided under rest and restriction of tobacco and alcohol. The men were anxious to get to flying and they usually threw off the tachycardia. The power of psychic influence is well shown, Josué added, by the tachycardia that develops in men being examined for the aviation course; it develops solely, he declares, from the candidates' fear of being rejected.—J. A. M. A. 70: 1040, April 6, 1918.

Boisseau, J., and D'Oelsnitz, M. Hysteria as an Element in Contracture of the Hands (Mains figées) Paris méd. 7: 501, Dec. 22, 1917

Boisseau and D'Oelsnitz refer to cases of contracture or paralysis in soldiers with or without organic lesions. They have had 108 cases of the kind in which the contracture had lasted from one to eighteen months in 63 and from eighteen

to thirty-six months in 45. The contracture was of the "accoucheur's hand" or the "priest blessing" type in many, and was usually of a type that can be reproduced at will. These and other features of the cases convinced them that the motor element in the affection was of hysteric or—as they prefer to call it—of pithiatic origin and hence susceptible of being cured by psychotherapy. They prepared the men for the treatment by keeping them in a circle of already cured cases, thus impressing on them the possibility of a cure. Then the application of systematic psychotherapy resulted in a sudden and complete cure of the motor element in 71 cases; in 17 cases the cure was rapid and complete, while it took some time for the complete cure in 14 cases. The psychotherapy failed completely in only 6 cases, and in all these there was no concomitant organic lesion. Of course the long disuse of the muscles took longer before normal conditions were restored but the abrupt overcoming of the long contracture confirmed the pithiatic nature of the contracture or paralysis.—J. A. M. A. 70: 576-77, Feb. 23, 1918.

Babinski, J., and Froment, J. Hysteria, Pithiatism and Functional Nervous Disturbances of War (Hysterie, pithiatisme et troubles nerveux d'ordre reflexe en neurologie de guerre) Paris, Masson, 1918. 295 p.

In a previous issue of the first edition of this work by Babinski, we have had cause to say that Babinski's contributions offer little or nothing to the interest of the hysterical problem by his erection of a new entity, which he terms pithiatism, namely, a disease which is caused by suggestion and can be cured by persuasion. The modern student of medical phenomena finds nothing dynamic in such a discussion and no student of energetics who has completed the study of the activities of the human body can obtain from this book any fundamental philosophical concepts of any value. On the other hand the clinician will find any number of extremely interesting descriptive points well illustrated and admirably outlined. To the student of the deeper psychology, independent of the particular phase in which it may be presented, Babinski's conception is superficial and static.—N. Y. med. j. 107: 384, Feb. 23, 1918.



GERMAN LITERATURE

PERIODICALS ABSTRACTED

Deutsche medizinische Wochenschrift, Berlin

Jahreskurse für ärztliche Fortbildung, Munich

Medizinische Klinik, Berlin

Monatsschrift für Psychiatrie und Neurologie, Berlin

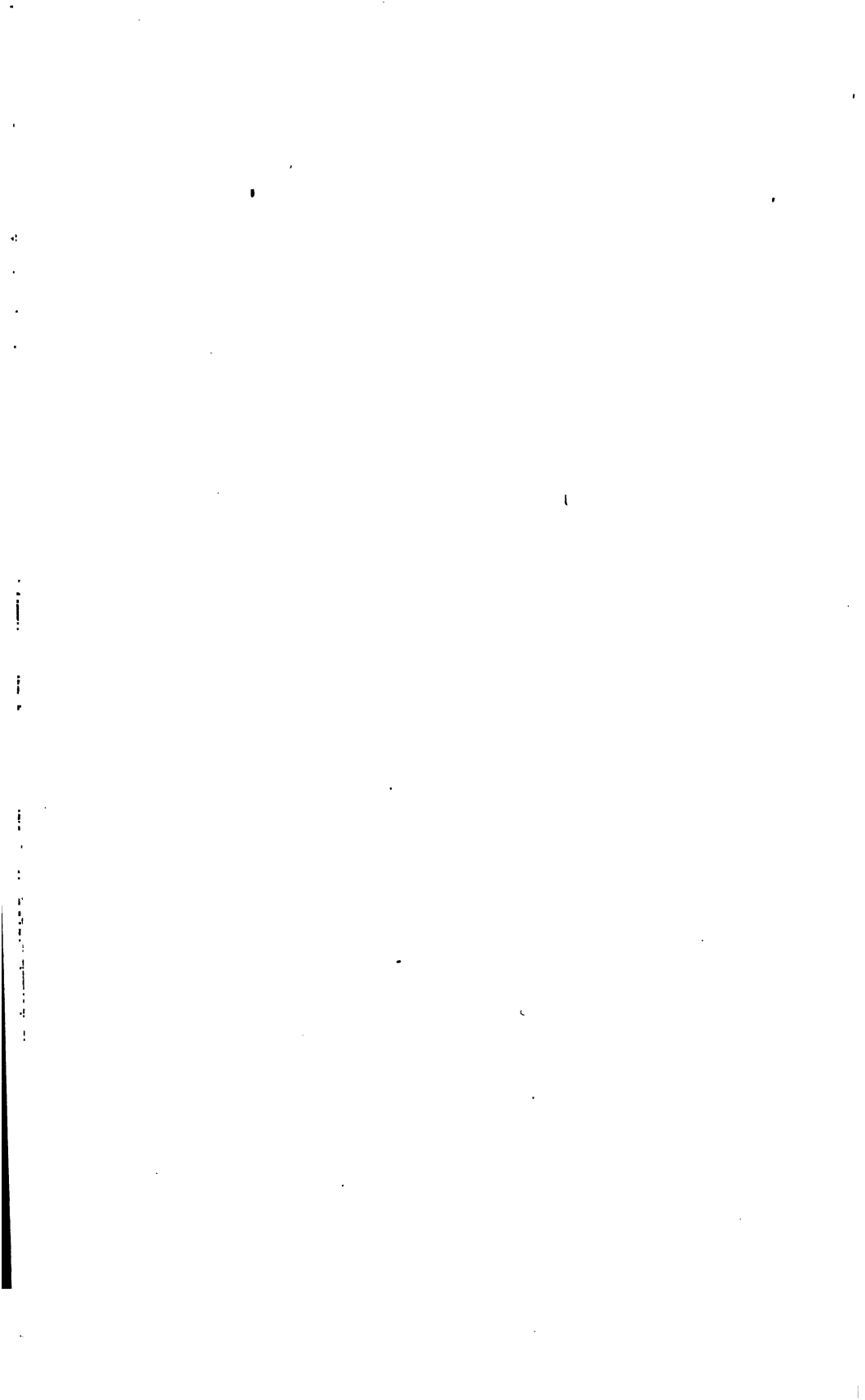
Münchener Medizinische Wochenschrift

Neurologische Centralblatt, Leipzig

Psychologische und Neurologische Wochenschrift, Hamburg

**Sammlung Zwangloser Abhandlungen zur Neuro- und Psycho-
pathologie des Kindesalters, Jena**

Schmidts Jahrbuch, Bonn



GERMAN LITERATURE

Buschau, George. War Psychosis (Über Kriegs-Psychosen) Med. Klin., Berlin, 10: 1588-91, Oct. 18, 1914

It is a well-known fact that accidents cause psychic disturbances more violent both in intensity and duration than the results of physical injuries. The clinical picture resulting from the fright and the shock connected with these accidents is known as "fright neurosis" or traumatic neurosis. An ordinary shock is often strong enough to affect seriously the nervous system. The patient becomes pale, his eyes protrude, his mouth opens, speech is lost, his hair stands on end, perspiration is profuse, the heart begins to palpitate, hands and legs tremble and he loses control over bladder and rectum. In severe cases, the patient becomes confused and excited, talks incoherently, etc. These conditions generally clear up in a short time, but sometimes they develop into chronic psychic disturbances. If nerve shock is complicated by permanent sequelae, we must assume a predisposition of the nervous system, either congenital or acquired. In other words, the individuals so affected are either psychopaths or are predisposed to a nervous or mental disease through the influence of alcohol, tobacco, poisonous gases, syphilis or other infectious diseases, and so are not able to resist the psychic strain.

War, with its terrors and emotional shocks, is a more potent factor than any other in the causation of mental disease. Here the writer reports in brief observations made during previous wars.

The causal factors of mental disease may be either physical or psychic, as, for instance, injuries about the head, excessive heat, intemperate use of alcohol, contagious diseases accompanied by fever, physical exertions of every kind, forced marches, lack of sleep and insufficient food, worry about family affairs, great emotional tension before battle, horrifying impressions during battle, panic during retreat, etc.

The observations made by Nasse in 1866 and those of Jolly are compared. A synopsis of the official report of the Sanitary Commission at the end of the Franco-Prussian War in 1871, which contains a detailed symptomatological study of the forms of mental diseases found at that time, is then given.

The writer differentiates between cases of mental disease which originate with head injuries and are caused by cerebral concussion or by organic lesion of the brain, and those which are of a purely functional nature.

Dr. Otto Holbeck, the Russian psychiatrist, is quoted by the writer. Holbeck believes that loss of consciousness immediately after bullet shot through the head does not occur frequently, and then only in comparatively severe injuries. After regaining consciousness, the patient shows several forms of psychic disturbance such as dullness, apathy, depression, impaired memory, especially retrograde amnesia, childish manner, abnormal sensibility, increased irritability, fits, rage, violence, delirium, etc., and sometimes great hilarity, mental confusion, hypochondriac and melancholic states and intense emotionalism. These conditions are caused by concussion of the brain, which is diffused mechanical injury, and not by the organic change of a particular part of the brain.

The writer makes the following statements with regard to the prevalence of psychic disturbances that are of a purely functional nature:

Dementia precox leads with 35%; psychopathic constitution follows with 25.5%; then come epileptic insanity, alcoholism, melancholia and depressive conditions, delirium, neurasthenia, hysteria and progressive paralysis. All of these disturbances are found in times of peace as well as under war conditions.

The most frequent disturbance among soldiers is a peculiar clinical picture which the writer wishes considered as war psychosis *par excellence*. It resembles cerebral neurasthenia to a great extent, but includes also hysterical symptoms and conditions of mental dullness. This symptom complex is identical with "defatigatio" known, since 1870, as exhaustion psychosis plus terror psychosis. The symptoms chronologically arranged are great depression, marked nervous exhaustion and increased debility of the nervous system, with a favorable prognosis.

The writer briefly reviews the observations of Awtokratow, then those of Krauser made during the East Asiatic expedition. The clinical pictures were various but coincided to a great extent with those described by Stierlin as psychical consequences of catastrophes such as the earthquake of Valparaiso, the railroad accident of Muellheim, etc.

The author believes that exhaustion and horror are to be considered the main etiological factors of war psychoses. The fact that not all individuals exposed to these conditions are affected shows, moreover, that predisposition must also be considered as an important etiological factor. An inferior psychopathic constitution shows itself in a lowered resistance to violent external impressions.

The extensive statistics of Awtokratow concerning the frequency of psychoses during the Russo-Japanese War are of little value because the abuse of alcohol in the Russian army gives a false impression. According to these statistics, alcohol psychoses amounted to 34.68% among the officers and 10.86% among the enlisted men. Epilepsy among officers was 4.88%, among enlisted men, 27.9%.

**Weyert, Psychiatric Observations and Experiences in the
Army (Militär-Psychiatrische Beobachtungen und Erfahrungen)
Samml. zwangl. Abhandl. 11: 2-150, 1914-15**

The military authorities are attempting to lessen the number of war neuroses and psychoses, especially borderline cases, by preventing the enlistment of the mentally diseased and by recognizing as early as possible all those in the army unfit for military service. To further this endeavor, it should be compulsory for the insane asylums, sanatoria, institutions for the feeble-minded, and the like, to report all such cases to the military authorities. In spite of these precautions many inferior men are admitted to the army. It should therefore be the duty of officers to report immediately all cases that attract attention because of peculiar behavior, stupidity or dullness. Pamphlets and lectures on popular psychiatry would always help the officers to realize that men with such symptoms are not always malingerers and that such cases require immediate medical treatment. To further this purpose, special military psychiatric bases have been established.

At Posen, 106 cases were studied and the following diagnoses made:

	Total number	Enlisted men	Non-com- missioned officers	Commis- sioned of- ficers
Alcoholic psychoses.....	9	4	4	1
Dementia praecox.....	23	20	3	0
Progressive paralysis.....	1	0	1	0
Organic brain diseases.....	4	1	2	1
Manic-depressive psychoses...	2	0	1	1
Chronic paranoia.....	1	1	0	0
Epilepsy.....	11	11	0	0
Neurotic constitution.....	5	0	4	1
Neurasthenia.....	4	3	0	1
Mental defect.....	20	20	0	0
Psychopathic constitution....	25	22	1	2
Hallucinatory psychoses.....	1	1	0	0
Total	106	83	16	7

These stations were intended to be used for purely mental cases, therefore neurasthenia and hysteria are represented by low figures. It is evident that the presence of mental disease has an unfavorable influence upon purely nervous cases, therefore separate services are advisable.

Statistics show that a large percentage of mental cases occur among volunteers. Many of them deny their defects in order to enlist, especially when they have been unsuccessful elsewhere. They frequently show a tendency to moral laxness. Stier states that in France eighty per cent of the deserters were from the volunteers.

The prognosis for types of dementia praecox in the war is much more favorable than in times of peace. There were no very severe cases. Investigation showed that in about fifty per cent of the cases hereditary factors could be demonstrated. It was proved also that in about fifty per cent symptoms such as a great desire to work followed by periods of laziness, boastfulness, irritability, sensitiveness, anxiety, vanity, egotism, emotionalism, shyness, a tendency to seclusion, neglect of personal appearance, megalomania, attacks of vertigo, hallucinations, headaches, etc., had existed before enlistment. In such cases, the existence of dementia praecox before enlistment was assumed and claims for indemnity were not granted. Simon believes that predisposition should be considered only as a secondary etiological factor and that the difficulties and hardships of military service should be considered the chief cause. Most of the other writers on this subject, including the writer of this article, are of the opposite opinion. Very often, after a several months' stay in the army, patients will be discharged who had shown symptoms of schizophrenia previous to their entering the service, but who were apparently normal during those few months. In such cases, the examining physician is not to be held responsible for overlooking the symptoms. The possibility of occurrence is, therefore, an important point in deciding forensic questions. Of the cases sent by the military courts to the stations for examination as to their degree of responsibility in committing offences, twelve were diagnosed as hebephrenics, eight as catatonics and one as a paranoiac.

It is difficult to differentiate clearly between mental dullness as a physiological phenomenon and congenital mental weakness as a psychopathological phenome-

non. This is especially true in individuals who have received no intellectual or moral training, for then it is difficult to know whether the defect is due to the lack of training or to a pathological condition. A diagnosis of congenital mental debility can be pronounced only when it is clear that attempts at establishing proper standards of conduct through education have proved futile. Such demonstration is difficult on account of the lack of authoritative information to be had from witnesses such as ministers, teachers, parents, etc. Hereditary factors could be proven in twelve of the twenty cases diagnosed as congenital mental debility, parental tuberculosis among them. Some of the symptoms in men of a retiring disposition were abnormal voraciousness, lack of personal cleanliness and of a sense of order, incapability to divide a given period of time properly so as to perform necessary duties, inability to follow instructions, stupidity, poor memory, absent-mindedness, and insubordination. In cases of the erethical type, these and other symptoms were present, such as boastfulness, excitability, a tendency to joke, etc. The writer groups cases of congenital mental debility into three classes as follows:

1. Cases of a mild type, that may still be used for military service.
2. Cases of moderate severity, where military service is out of the question but where the individual is responsible for his actions.
3. Severe cases, which exclude both the possibility of military service and responsibility for actions.

Many views have been expressed as to the nature of epilepsy. In this connection the question is simply whether or not genuine chronic epilepsy may be caused by skull injuries. Binswanger, Mendel and others admit the possibility. Surgeons and neurologists with surgical knowledge recognize a traumatic genuine epilepsy, and believe that, where the clinical diagnosis fails to recognize a traumatic etiology, an operation may reveal convincing signs. X-rays may also help in establishing the diagnosis of traumatic epilepsy.

The writer agrees with Redlich, that in trying to establish an epileptic diathesis, only those cases should be considered epileptics that give proof of true epileptic fits. So-called psychic equivalents should be regarded with skepticism.

Cases of general psychopathic constitution were frequent. The main etiological factor in fifty per cent of these cases was heredity. Those that exhibited congenital causes were (1) cases of hereditary degenerative constitution of the general type, (2) cases of an epileptoid nature, (3) cases of unstable temperament, (4) cases of sexual perversion, (5) degenerates with constitutional states of depression. Traumatism is considered an etiological factor in acquired psychopathic constitutions. Cases of each type are described in detail.

Chronic paranoia was of rare occurrence, comprising less than one per cent of all the admissions. The age of the men varied from twenty to forty years. This group consisted of chronically querulous individuals always engaged in a fight for their rights, with or without cause.

Neurotic constitution and acquired neurasthenia were very rare, and only a few cases of hysteria came under observation. Among the organic brain diseases were cerebral lues, progressive paralysis and cerebral tumor. The writer gives his experiences with cases that had previously been inmates of a reformatory, which group comprised 14.4% of the cases observed. Numerous statistical tables are given.

Mendel, Kurt. Psychiatric and Neurological Observations at the Front (Psychiatrisches und Neurologisches aus dem Felde)
Neurol. Centralbl., Leipsic, 34: 2-7, Jan. 2, 1915

The writer has found that the occurrence of psychoses in the present war is astonishingly rare. This is probably due to the thoroughness of the examinations

at the time of conscription which eliminate all the psychologically doubtful cases.

Special divisions for mental diseases in the field hospitals were unnecessary. Isolation in a special room or in barracks in the grounds of the hospital was sufficient until the patients could be transported to the base hospital. During the process of transportation they had to be kept very quiet. This was accomplished by a subcutaneous injection of morphine and hyoscin, and in one case by mechanical restraint. The latter procedure will often be necessary on account of the lack of continuous baths or trained attendants.

War psychoses as a nosological entity do not exist, but war may give to psychoses a distinctive coloring. For example, patients in the operating room under narcosis talked only about war and military service, giving commands, making reports, etc., during the period of excitement. Even in other conditions such as hallucinations, etc., war was always in the foreground. In one case of amentia, however, the patient did not know where he was and imagined himself to be in an insane asylum.

The writer confirms Bonhöffer's statement with regard to dementia precox that, considering the age of the majority of soldiers, he believes the war will cause a great number of cases of schizophrenia.

He has not observed any cases of manic-depressive psychoses. Hysteria was usually more frequent among officers than among privates. The majority of patients accused of disciplinary offenses were chronic alcoholics.

The same article also treats of the writer's experiences with cases of tetanus.

**Jolly, P. Observations in the Nervous Division of a Reserve Hospital
(Erfahrungen auf der Nervenstation eines Reserve Lazarett)
Schmidts Jahrb., Bonn, 82: 141-47, March 1915**

The paper is based upon 319 cases observed by the writer in the reserve hospital at Nuremberg. They were men between the ages of eighteen and forty-five who had been found fit for service, trained for a brief time, and had then served at the front for a shorter or longer period. There were no cases of pure psychosis, for these were treated in a special psychiatric ward, but cases of degeneracy and psychopathic constitution were observed. Patients of the former type usually combined some form of malingering with minor ailments. It was difficult to classify the psychopathic cases as many of them were of the border-line type. If such men reach the front, they are likely to cause much trouble, both for themselves and their comrades, and are especially susceptible to alcoholic temptation and stimulation. It is interesting to note that not a single case capable of being diagnosed as general physical and nervous debility was found among army recruits. All men of this type had been weeded out during the reservist stage.

Among the patients eighty were diagnosed as neurasthenic. Cases of cardiac neurosis were included in this group. Most of these patients had manifested symptoms of nervous trouble before the war. Those who claimed to have been perfectly healthy before entering the service generally exhibited the clinical picture of exhaustion neurasthenia. Characteristic symptoms, observed mostly in officers, were a tendency to weep and great irritability.

The diagnosis of fifty cases was hysteria. Spasmodic fits appeared as the predominant symptom. Some patients had shown evidence of these previous to service; in others they developed after enlistment. The fits varied from slight twitchings during perfectly conscious states to the most violent convulsions attended by unconsciousness. In one patient they assumed a most dramatic form. The man would first be overcome by a violent attack of trembling, after which he would rehearse silently some battle scene, going through the motions of loading his rifle, aiming, firing, etc., followed by a second trembling fit; then he would become calm and sink into a period of total amnesia. These patients are gener-

ally irritable and averse to discipline, but after cure many of them can be returned to the front.

The chief etiological factors are physical and mental over-exertion, shell shock, and heat stroke. The condition in one case had been caused by the man's having to spend the night near a pile of dead horses.

A number of interesting cases of hysterical paralysis are described. In one, in which the man lost the entire use of both arms after slight shell shock, it was found that the patient, ten years previous, had had a stroke of radial paralysis. His condition of shell shock showed improvement upon application of the faradic current. The writer believes that in cases of general asthenia the desire for war indemnity plays an important part. Symptomatology of several cases is given in detail.

Another group of the hysterical type is comprised of cases of psychogenic tremor and similar motor disturbances. Causative factors are shell shock, exhaustion and climatic conditions. Treatment through mental suggestion by assuring the patient that his troubles are curable and non-organic in nature seemed the most generally successful therapeutic method. Other forms of treatment used were bromides, opium, wet packs, baths, massage and faradization. Sometimes the injection of scopolamin brought relief.

Two cases of shell shock with unconsciousness are described in which an unusual manifestation was observed—a peculiar, slow movement of the head resulting in a forced position resembling that seen in torticollis. An interesting case history of functional motor disturbance following heat stroke is cited. This patient, immediately after his stroke, was seized with spasms of the arms and tremors of the legs. The position and action of the arms was very curious. They were bent at right angles at the elbow across the chest, and then violently extended. This motion was continuous and so rapid that there were 220 flexions and extensions per minute, or 198,000 during the fifteen waking hours. In sleep they ceased. The whole body and head were involved in the shaking motion.

Epilepsy was not often found. A case is described.

The nervous pathology of shock, particularly shell shock, is discussed in detail. Among psychic causative factors are consciousness of danger, seeing a comrade suffer a horrible death, and many other conditions and events of modern warfare. Organic causes are the tremendous atmospheric pressure caused by the explosion of the shell, the poisonous gases liberated from it, and the concussion of the whole body and skull in cases in which the man is thrown down violently or blown up or against some fixed object, such as a tree or wall. Physical and mental exhaustion may produce a condition of susceptibility to shell shock, but it also occurs in strong-nerved men. In nearly all cases, the initial shock is followed by a period of unconsciousness of longer or shorter duration. Sometimes no nervous consequences follow and the men continue in the service. Symptoms in those nervously affected are vertigo, impaired hearing, headache, increased excitability of the heart and of the muscles, vasomotor disturbances and hyperemotional states. Other cases showed neurasthenic symptoms, such as trembling of the tongue and fingers, hypochondria, depression, etc. Hysteriform symptoms were exhibited by others, such as functional paralysis of both arms, trembling of the whole body accompanied by spasms, head movements and facial tics. Deafness, mutism and aphonia were frequent. Speech disturbances are discussed at length.

The writer concludes his article by brief comments upon nervous affections caused by shots through the head, and upon peripheral paralysis.

Westphal, A., and Hübner, A. H. *Nervous and Mental Diseases in the War (Über nervöse und psychische Erkrankungen im Kriege)*
Med. Klin., Berlin, 11: 381-84 and 413-17, April 4 and 11, 1915

The writers believe that there are no real war neuroses nor psychoses—that these affections are not essentially different from those observed in times of

peace. There is a difference of opinion as to the frequency of these so-called war neuroses and in order to make this question somewhat clearer they have collected data from which the following clinical cases may be cited.

1. The patient had previously been healthy and free from mental or nervous disorders. He was exposed to shell-fire for a long time. After the near-by explosion of a shell, he was buried alive under the soil. From that time on he suffered from headaches and for a period was mentally unbalanced. At this time he received news of his captain's death, upon which he was seized with an acute attack of excitement and delirium, during which he rolled on the floor and smashed everything in his proximity. He was admitted to the hospital in a condition of stupor with alternating catatonia. After a long sleep the symptoms cleared up, but retrograde amnesia covering a period of several weeks persisted. He remembered nothing of his captain's death and subsequent events, and kept complaining of headaches. He was abnormally sensitive to noise and had visual illusions, general hyperesthesia, and complete ageusia.

2. Patient was a volunteer. Nothing was known of his heredity, but he had always been healthy. His shoulder was grazed by a shrapnel piece but no serious injury resulted. He lost consciousness and on the next day became delirious. He would leap up suddenly at night and run shooting toward the French trenches. At another time he shot towards the ceiling and cried, "The Russians are coming." He remained in this condition for two days. He suffered at first from paralysis of the right arm and leg, which later was restricted to the arm only. He also complained of headaches. He confabulated, raved at night of his war experiences, and at times was hysterical. There was complete amnesia and hyperesthesia of the right arm and shoulder, but no other symptoms.

3. This patient, a non-commissioned officer, was very excitable but otherwise healthy. His mother was very nervous. He was injured in his foot and thigh, but the wounds healed quickly. While at the hospital he slept badly and dreamed of horrible war scenes. When he first attempted to walk there were tics of the muscles of face and neck. His head was drawn backward and sideways and he made grimaces. The other symptoms were marked tremor of the upper extremities, sometimes a tremor over the whole body, slight hemi-hyperesthesia, very active tendon reflexes, vasomotor disturbances and an unsteady gait. He was easily influenced by suggestion.

From the description of these and other cases the writers conclude that clinical pictures of nervous disease among combatants vary greatly, and that they are by no means so rare as has been sometimes believed. However most cases occurred in predisposed individuals. In other instances predisposition could not be proven. The explosion of shells in the immediate vicinity, even if no physical injury results, is the most important of the direct etiological factors of nervous diseases in the war. Shell-shock has such a powerful effect upon the nervous system that it can cause severe nervous symptoms, even in non-disposed individuals. These symptoms are both of a hysterical and neurasthenic nature. Among the former are abasia, paralysis of the extremities, tremors, and disturbances of speech. The various neurasthenic symptoms are headache, vertigo, insomnia, vaso-motor disturbances and tachycardia. Some cases exhibit peculiar contractures of the muscles of the neck, conditions of utter exhaustion and general and sometimes a localized sensory hyperesthesia, often of a lasting nature. A combination of these symptoms results in the various forms of the clinical picture of traumatic neurosis. The prognosis of the traumatic war-neurosis seems more favorable than that of the pension neurosis. The number of cases of true psychoses, apart from cases of general nervous disturbances, and the "border-line" cases, was very small.

The types of war psychoses were practically the same as those in times of peace. In the manic and depressive cases there was a peculiar tendency to activity,

coexistent with loss of self-confidence, and a state of acute fear combined with motoric unrest and insomnia. A few of these cases resembled dementia precox and sometimes symptoms were observed corresponding to those of acute delirium. Men who had never displayed psychic or somatic disturbances of any kind at times showed the paralytic and tabetic symptoms of metasyphilis.

The writers then take up the medico-legal work of the psychiatrist in military services.

These questions frequently arise:

1. Is the patient fit for military service?
2. Is he entitled to claim indemnity?
3. Is he responsible for misdemeanors that he has committed?

The writers believe that the authorities should make every effort to keep men that are unfit for military service out of the army. Strict examinations should always be made, both of those who themselves claim to be unfit and of those who laud their health because of a desire for enlistment. Medical officers at the draft examination are not always at fault when mental disturbances are overlooked. The consultation of all available records of insane asylums and similar institutions as well as prophylactic measures should prevent such occurrences. The parents of boys suffering from diseases that make them undesirable for military service should be notified. Diagnosis is comparatively easy in cases of paralysis, dementia precox, amentia, paranoia, mania and melancholia. The service of moderately severe cases of neurasthenia and hysteria is always doubtful. For example, several cases of hysteria, after being honored for their valor, and at times decorated with the Iron Cross, subsequently suffered complete mental breakdown and only a few could be returned to the front. Employment behind the lines should be given in such cases. Cases afflicted with spasms, especially hysterics, have been frequently looked upon as malingerers, although various symptoms, such as fits and analgesia, were present. The number of real malingerers is not great.

The majority of cases that claimed indemnity belonged to the accident neuroses group. Claims were not granted until very detailed histories of patients were obtained. This was an important point, since cases were found that had already tried to gain compensations from various companies and had failed, after which they tried to obtain compensations from the military authorities.

The treatment of cases suffering from neurasthenia and hysteria frequently gave good results. The patients were sent out of the clinic as quickly as possible and made to resume their former occupation. This saved many from permanent incapability of work.

The writers were called upon in twenty-three cases to state their opinions in the legal procedure against enlisted men. The offenses that were committed had occurred mostly in the interior. The non-military offenses were seven thefts, one embezzlement, one case of immorality, one case of libel, and one case of wearing the Iron Cross without being entitled to it. Among the military offenses were ten cases of desertion, two of lack of respect to superiors, one of insult to superiors, two of assault, three of misuse of weapon, and one of cowardice. None of these could be termed healthy in a clinical sense. Alcohol was frequently a causal factor in these offenses. Psychopaths who had been deprived of alcohol for a long time became much excited after taking a few glasses of wine. Total abstinence would be the most desirable thing but it is hardly possible to enforce this in a large army. It is important, however, that the superior officers keep an eye on those who, in a state of intoxication, are liable to cause trouble. After a prolonged period of abstinence only small doses of alcohol should be allowed.

Several interesting cases in which alcohol was responsible for the patients' offenses are described. One is cited here. The patient's two brothers, his father, his father's two brothers, and his great uncle were heavy drinkers,

nearly all of them having shown signs of delirium. His mother had fits as a child. The patient himself had gone to school only occasionally, and then was troublesome to his teachers and rude and brutal to his classmates. He also committed thefts. After he left school he had several positions as an apprentice, but he never learned any trade. He left these positions and was finally employed as an unskilled laborer, but was again discharged because of his irritability. He then enlisted in the army. Here he got eighty-five days of confinement for disciplinary offenses. He was convicted sixteen times for brutal acts, burglary, thefts, insults, public misdemeanors and exhibitionism. Observation showed that he had a continuously sullen temper, was irritable and inexact in his statements, that he slept badly, stammered and showed many signs of degeneracy. He was tried for desertion and afterwards made two attempts to escape. At the time of committing these offenses he was without exception under the influence of alcohol. He admitted that he was very sensual and felt forced to masturbate immediately after taking alcohol, which caused him to commit his sensual offenses. The writers suspected this to be a case of epilepsy but, as the patient's statements were very unreliable, nothing further could be diagnosed. This case shows how difficult it sometimes was to come to a definite conclusion. The writers state that in cases of apparent desertion like the above, the court always assumed that they acted so only temporarily, and sentenced them accordingly.

Redlich, Emil. The War and the Nervous System (Einige allgemeine Bemerkungen über den Krieg und unser Nervensystem) Med. Klin., Berlin, 11: 469-73, April 25, 1915

The writer does not discuss organic injuries of the nervous system but limits himself to the question of the degree of resistance of the human nervous system during war time. He believes that our age is one of increased capability and nervous resistibility and that there is no justification in speaking of a progressive degeneration of the civilized nations. Two factors, however, are worthy of attention. Insomnia, especially among peasants who had never before known anything of sleeplessness, was very frequent. Dreams about war scenes seemed to disturb their sleep. There was also variation of body temperature and of heart action apparently without adequate cause.

The writer believes that in cases where a compensation does not come into consideration, a comparatively small number of wounded soldiers develop "traumatic neurosis."

Shell explosions in the immediate vicinity are one of the most frightful of war conditions. Officers have reported that whole companies that had been exposed to shrapnel showers were attacked with crying fits, vomiting and other nervous conditions, but that the psychic balance was re-established as soon as the reserves had taken their places. Even in cases where the patient had been wounded and had suffered concussion of the brain, the symptoms of a traumatic neurosis rarely develop. Another point of importance is that traumatic neurosis is a relatively benign condition.

The writer corroborates Oppenheim's statement that symptoms of traumatic neurosis often developed as an immediate consequence of the trauma even before the wish had a chance to take effect.

The prognosis of the traumatic neurosis is much more favorable now than in times of peace. This is ascribed to two facts: (1) The patients are young and healthy; (2) The incentive for obtaining a disability compensation is stronger in times of peace than now. Besides, if the patient is resigned to the thought that he will be compelled to return to the front, whether or not the nervous disorders have disappeared, he makes astonishingly rapid progress. This is especially true of traumatic neurosis in which hysterical symptoms predominate,

particularly in organic lesions of the nervous system. Therapeutic methods however are questionable because of their severity and painful nature. Many cases of hysterical paralysis and anaesthesia, tremors, peculiar astasias and abasias, which, under ordinary treatment remained uninfluenced for months, have been cured in a single sitting by the application of a strong faradic current. It goes without saying that this form of treatment removes the symptoms but not the hysteria. Isolation and a milk diet, added to this method, have given good results. Such cases are sometimes considered malingerers, but many authorities maintain that genuine malingering is very rare; it is one of the symptoms of traumatic neurosis.

The writer believes that, in cases of traumatic neurosis with neurasthenic symptoms, predisposition is an important factor. Explosions, hardships and scenes of terror, or injuries may cause the outbreak of the latent condition. On the other hand, acute exhaustion neurasthenia is very rare.

The treatment of neurasthenia is totally different from that of cases of hysteria. Many have been cured by a complete change of environment. Spontaneous or miraculous cures of neurasthenia are not possible. The psychological factor in the treatment is of the greatest importance. The patient must be convinced that his troubles have no organic basis, that his mere dislike of service at the front is not a sufficient reason for declaring him unfit for such service, that his stay at the hospital is only for the purpose of increasing his resistance to disease.

The writer has met several cases of depression, particularly in soldiers who were worried about their families left in the regions occupied by the enemy. He has also observed cases of schizophrenia, that became acute during the war, confusional states, progressive paralysis and alcoholic psychoses.

The rest of the article deals with the influence of the war upon the civilian population in regard to mental and nervous diseases. A few interesting cases are cited.

Marburg, Otto. Neurology in War (Neurologie im Kriege) Jahr. für ärzt. Fortbild., Munich, May 1915, p. 1-14

In modern warfare, injuries of the brain and of the peripheral nerves are more frequent than they have been in former wars. The recent progress in surgery, however, gives scope for greater attention to such injuries and also to those of the spinal column. Only the skilled surgeon can perform these operations, but the neurologist is constantly needed for consultation and assistance.

Bullet shots grazing the skull and injuring the skin without affecting the bony structure are important only in as much as the clinical pictures resulting from them resemble "concussion" neuroses. When the bullet strikes him, the soldier falls to the ground, remains unconscious for a few moments, vomits and has a short period of amnesia. This is therefore a typical picture of concussion of the brain. A few days later the patient is somewhat apathetic and nauseated, complains of headache and his pulse is slow. Improvement takes place after an interval of from eight to fourteen days of rest, but the headaches and the low pulse rate may persist for weeks. X-rays are absolutely essential since the inner table may not always escape injury. These shots are frequently accompanied by conditions of stupor or clinical pictures resembling Korsakoff's psychosis, or followed by neurasthenia and hypochondriasis. The prognosis is generally favorable and the treatment which consists in strict confinement to bed, at least until the pulse is normal, rarely lasts more than four weeks.

Tangential shots always necessitate operations. Even if they only injure the bone, the splinters in the inner table cause lesions of the brain. Infections, abscess formations or encephalitis often follow. In the beginning, the clinical pictures resemble those of the grazing shots. Here also there is concussion of the brain, slow pulse and headaches, but along with these, there are, according to the location of the lesion, paresis, paraplegia, aphasia and hemianopsia. The

absence of irritation phenomena even where motor areas are involved, is very striking. Paraplegia was for the most part flaccid with increased reflexes and the presence of Babinski and Oppenheim signs. The brain abscesses resulting from these shots are usually accompanied by an exceedingly subnormal temperature at about 35.9° C, bradycardia (pulse 52) and marked moroseness. At times there was a rise in temperature and leukocytosis preceding the abscess formations. An X-ray examination is absolutely essential in gaining a clear picture of the extent of the lesion. The prognosis in tangential shots is comparatively favorable, if unaccompanied by brain abscesses. The fatality is usually one in thirteen compared to brain abscesses where there are eight fatal cases out of every eleven. Surgical treatment is almost always necessary even if it may have to be postponed for a period of two or three weeks. Spontaneous cures are possible, though in such cases there is likely to be a later abscess formation.

When the projectile remains in the bony substance or the brain matter the injuries may be classed as either superficial or deep-seated. The symptoms resulting from the superficial shots are identical with those of the tangential shots. Brain abscesses usually form in front of the bullet. In such cases an operation is advisable and the prognosis is favorable but an X-ray examination is essential in diagnosis. Sometimes there are no symptoms except the initial slight concussion, and on one such occasion a soldier refused to be sent to the hospital, remaining at the front for eight days, when he showed symptoms of a brain abscess. Surgical treatment is not to be used in the case of these deep-seated shots for the abscess formation has usually penetrated the ventricles, leading to pyocephalus, meningitis, etc.

Penetrating shots that leave the brain may do so either at a distance of not more than a few centimeters from the entrance—these are known as segmental shots—or they may traverse the brain in a sagittal or frontal direction, in which case they are called penetrating shots proper. Lesions of the latter type are very frequent but the symptomatology varies. There are cases in which no clinical symptoms exist after the initial concussion and the accompanying general symptoms. Then again, regional symptoms in others are very marked. The prognosis on the whole is favorable provided there is no infection. Operations are absolutely contra-indicated.

In cases of the segmental shot, the symptomatology, prognosis and treatment are the same as for cases of tangential or superficial shots. A few cases may be cited. One shot, penetrating both mastoid processes directly behind the ear, caused cerebellar affections with peculiar disturbances of speech. Another shot, entering somewhat higher, caused cortical blindness. Still another, entering near the left eye, and leaving behind the right ear, caused the clinical picture of bulbar paralysis of the right side.

The most important complications of brain shots are pyocephalus, meningitis, cerebral hernia, ventricular fistula and cerebral prolapse. A sudden rise of temperature to 40° C, a rigidity of the whole body musculature and a decrease of the pulse rate generally indicate a rupture of the ventricle. Basal meningitis with cranial nerve involvement soon follows, but often disappears as rapidly. This picture generally corresponds to pyocephalus, the infection finding its way most likely through the foramen of Magendie. It is striking that the side away from the convex part of the bullet lesion was always the most largely involved. The question as to whether spinal puncture is necessary to relieve meningeal complications must be left open, for in two cases a cure was effected without it. The prognosis of ventricular fistula is favorable, the treatment consisting in absolute rest. Cerebral prolapse, the most frequent complication of brain shots, is due to a congestion and edema caused by infection. Another causative factor may be the premature transportation of the patient. The prognosis is favorable but the regional symptoms are mostly of a more permanent character, and disappear only when the herniae recede. There are also primary prolapses caused by the

shot itself. In these cases, surgical interference is contra-indicated since the symptoms generally disappear after a few days.

Rest is the most essential feature in the treatment of such cases. A very simple remedy consists in the local application of tincture of iodine. Pock formation and the retention of even the smallest quantity of secretions must be prevented.

The ratio between brain shots and spinal column shots is 1 to 6. Those causing lesions of the spinal-marrow indirectly are (1) bullet shots penetrating the thorax or arrested in the thorax (2) grazing, penetrating or arrested shots in the spinal column (3) shots arrested in the spinal column (4) shots penetrating the spinal marrow. The clinical picture resulting is known as "commotio medullae spinalis", where commotio implies a tearing of lymphatic capillaries. This results in the formation of edematous traumatic degeneration, etc., which in turn may cause symptoms that correspond to a typical lesion of the spinal column. The term "commotio medullae spinalis" is not very definitive. It is used mostly in connection with symptoms occurring after a heavy fall. Immediately after the accident, the patient shows paralytic weakness of the extremities but recovers without treatment in the course of three or four weeks. This is not a functional disturbance but one of an organic nature, since an increase in reflex and urinary symptoms clearly indicates definite anatomical lesion of the spinal marrow. Some of the striking features in the clinical pictures resulting from these shots may be mentioned. The symptoms appear directly after the injury. At first there is usually flaccid paralysis, but after a few days it often becomes spastic, sometimes, however, remaining flaccid for months even if the lesion is far above the centers responsible for the paralysis. A lesion in the cervical region causes flaccid paralysis of the upper and spastic paralysis of the lower extremities. Atrophy of the muscles of the hand, rectal and bladder disturbances and decubitus occur very early. The sensory disturbances are the same that we get in a transverse lesion of the cord. Above the anesthetic zones there is generally a small zone of hyperalgesia, seldom involving the whole of one or two segments. In lesions of the dorsal region we get a flaccid paralysis of the lower extremities. Lesions in the lumbar region often produce loss of patellar and Achilles reflexes with no involvement of bladder and rectum, flaccid paralysis of the lower extremities and corresponding sensory disturbances. The Brown-Séquard syndrome is frequently present. Tenderness upon pressure over the spinal column and spontaneous root-pain is very rare. Five or six weeks suffice to show clearly the possibilities for cure. The latter two conditions indicate surgical procedures. Patients with a flaccid paralysis that has lasted three or four months are frequently able to use their legs spontaneously a few weeks after the operation. Decubitus and cystitis do not contra-indicate operations unless the lesions are of a very severe nature. Pulmonary and abdominal complications do, however, call for surgical treatment.

Injuries of the facial nerves caused by bullet shots are most frequent. There were two cases of facial paralysis, however, that seemed to be of rheumatic origin.

The peripheral nerves, especially the radial and the peroneal, are involved in injuries of the extremities. A striking feature in these cases is the relative absence of pain, even when sensory nerves are injured. Sensory disturbances are slight compared with motor disturbances. The atrophic processes seem to occur later than is usually the case. Trophic and vasomotor disturbances are common and extensive. Other symptoms are coldness of the limbs, cyanosis, hyperidrosis, hyperkeratosis and changes in the hair and nails. Nerve lesions are generally complicated by extensive suppuration and therefore the consequent callus and connective tissue formations make surgical operations very difficult after a healing process of several weeks.

The best time to operate is in complete absence of any degenerative reaction. It might also be advisable to use surgical methods when a slight reaction has

started but has been stationary for a long time. An early operation is best. Slight improvements may sometimes remain stationary and then cause very irritating contractures. A trial of two or three months is sufficient however, to show whether an operation is needed or not. Palpation of the nerve for the purpose of diagnosis has been recommended in order to determine whether or not it has been severed by the shot.

Hartmann, Fritz. Training Schools for "Brain-Cripples" (Übungsschulen für Gehirnrüppel) Münch. med. Woch. 62:769-70, June 8, 1915

A large percentage of cases of brain-injury in the present war, after more or less extensive treatment, are discharged as "surgically" cured but only a few of these are organically and functionally cured. All the rest may be classed as "brain-cripples". As a result of surgical interference in many of these cases, even if no organic lesions remain, there are permanent functional disturbances, either of a motor, psychomotor, or sensory-motor nature. These cases are different from those occurring in times of peace when most of the cases in hospitals for mental diseases are degenerate types. The war sufferers were young, strong and healthy at the time of the injury.

Therapeutic methods, too, are different in both instances. In the ordinary cases of mental disease we try to arrest, to limit or to remove the underlying causative factor, whereas in the case of the so-called brain-cripple we must deal with a completely healed wound in the brain. The scar does not become worse, no matter what functional disturbances result from it. Therefore, the brain, structurally unchanged, is capable of being restored to a marked degree. Brain-areas that are functionally related to those more or less injured adopt the functions of the latter and in this way the defect is practically made up for. The same principle also holds true for the motoric processes in the extremities, for the motor speech apparatus in central lesions and for the higher senso-motoric functions of the sensory systems. The restoration of the lost or incapacitated functions should, therefore, be the first therapeutic aim of the medical profession. This may be accomplished by means of reeducation.

This method is not new, for it is being used in the treatment of various other types of cases such as abasia, speech defects, and hemiplegia. The new schools for the training of orthopedic cripples also use the same method. It is comparatively new, however, as applied to the brain. It is practised by a special school in the University Clinic at Graz, Austria. The aims of this school are to arouse or create anew the various processes of perception, apperception, memory and orientation, to reconstruct the faculty for apprehension through the senses, to overcome defects, to do away with pathological associations and to form new ones in their stead, and to stimulate the power of abstract conception. This treatment is based more upon the pedagogical than upon the medical skill of the leaders of this school, but since the results obtained are so encouraging, a trial on a larger scale is planned.

Kastan, Max. Forensic Psychiatric Observations in the Army (Forensisch-psychiatrische Beobachtungen an Angehörigen des Feldheeres) Deutsche med. Woch., Berlin, 41:734-37, June 17, 1915

Psychiatrists study psychic disturbances occurring in the army so as to discover the role that predisposition, bodily exhaustion and over-exertion, strong emotions, and other conditions of army life, play in the production of various

clinical pictures. Military delinquents often exhibit these pictures, so for this reason are frequently subjects of careful psychiatric study.

Extensive work along this line has been done by such men as Schultze, Meyer, Mönkeberg, and Craimer. The cases described by them include mostly desertion, abandonment of post of duty, disobedience and disrespect. In the Königsberg Clinic about fifty such cases were treated up to February 1915. Three of these were officers, seven were volunteers, eight regulars, six reservists, seventeen national guardsmen, a few belonged to the medical corps and the rest to other divisions connected with the military organization. Out of these fifty cases, four had previously been dismissed from the army, two of these on account of mental defects, five had been in asylums for inebriates and the insane, and fifteen had been previously convicted, one of them only by a military court, nine by a civil court and one had been acquitted on the strength of a medical expert's diagnosis of mental deficiency.

There were comparatively few cases of simple psychic disturbances among those that came under observation. Manic-depression and general paralysis were not present at all. There were eight cases of dementia praecox. One of these was accused of attacking another soldier with a knife. During the eight weeks he was under observation he spoke only once and then just a few words. He was in bed most of the time, uttering now and then a hoarse laugh, staring at the wall, or twisting his moustache. Whenever he came to trial, he would put his hands behind his back as he did when he was arrested and tried to conceal the knife. Another case was at first very uncommunicative, irritable and excited. Gradually he quieted down and began to show interest in his surroundings. He accused his wife of being a spy, said that people wished to make a spy of him while on post duty, and thought his name had been dishonored. He had entered the army as volunteer, but deserted because he was afraid. Another case of dementia praecox attracted attention by uprooting shrubs and trees in the park in order to look for spies and enemy shells. He had invented a process, so he believed, to ozonize the "poisoned" water of the Königsberg water supply, which it was his duty to guard. He also imagined the presence of worms and bacilli in every glass of water. Because he drew plans of the aqueduct, he was accused of betraying military secrets. Another case wrote many letters to the authorities discussing the political situation in a foolish manner and was accused of lese-majesty. Two other cases had deserted and committed thefts at the same time. One of them had previously suffered from kleptomania.

There were nine cases of low-grade mental defectiveness, most of whom were accused of desertion, and of other crimes such as theft, assault, murder, mutiny, etc. One man stole a horse from a peasant, left his regiment and in his uniform went to a small town where he was known. Another case was sent to the post-office to deposit a considerable amount of money and at the same time to look for a stolen bicycle. He stayed in the city, depositing the money after several days. When he was arrested, he claimed that he had been searching for the bicycle in a distant city. His history showed that he had frequently run away from home and that he had often been convicted of fraud and embezzlement. In the case of these defectives, the combined effect of two different motives was the cause of their desertion. When they left their regiments they were too stupid to find their way back and then were overcome by fear of punishment for having stayed away so long.

The degenerates and psychopaths constituted the largest group of cases, ranging from the highly intelligent but emotionally unstable individual to the low-grade criminal. Most of these had previously shown some forms of mental abnormality and had been inmates of institutions for the mentally diseased, prisons or reformatories. Some of them seemed to derive great pleasure from decorating themselves in the most bizarre and foolish manner with crude representations of military honors and insignia. Tattooing was frequent. They

often made a practice of petty and sometimes useless thievery, stealing handkerchiefs, broken tooth-brushes, and other trivial articles. One cadet who had been recognized as a psychopath at a military academy and therefore dismissed, reenlisted in the army at the beginning of the war. After being slightly wounded in the head, he was sent to a hospital. Here he suffered from all kinds of grandiose delusions, disappeared when he was well enough to walk, but later returned to duty and spent most of his time writing poetry.

One patient showed clearly Ganser's syndrome. Two other cases of hysteria, who, in states of utter exhaustion closely resembled psychopaths, were also accused of desertion. Three cases of epilepsy were charged with desertion, when, after an absence of a few weeks, they again reported at the front, one of them saying that he had been in Petrograd. Several alcoholics were accused of disrespect, disobedience, and insult to superior officers. One of them showed a typical picture of complete amnesia. Another had killed a woman because he had been told to shoot all spies.

From these observations, the writer concludes that military conditions give a certain uniformity to all criminal acts. Individuals with strong emotions and great initiative are often guilty of disobedience and disrespect and, where these characteristics are lacking, they are usually deserters.

Wollenberg, R. Occupation Therapy in Military Hospitals for Nervous Diseases (Lazarettbeschäftigung und Militärnervenheilstätte)
Deutsche med. Woch., Berlin, 41: 757-60, June 24, 1915

The most important etiological factor of nervous diseases is predisposition involving both heredity and personal experiences. Thus there may be individuals by heredity endowed with a labile mental equilibrium who lose their balance after a series of unusually exciting events. In the treatment of such cases, quieting mental influences are the only cure, and intelligent and useful occupation is the most important of these influences.

The same principle must be applied in treating patients suffering from nervous disturbances in war time since their cases are similar to those in times of peace with regard to both etiology and symptomatology. This fact is verified by the writer's experience in that all cases had shown signs of nervousness before the war. The occupation selected for such patients should be useful and should make them more contented. Moreover, no man should be forced to do something for which he has no inclination nor should he be made to do work calling for over-exertion on his part. There should also be no unfair competition with the work of the civilian population. A well-chosen occupation can make the patient stronger, improve his general condition, arouse self-confidence and in this way bring about mental equilibrium. All forms of work have been introduced such as wicker-work, net-work, fret-sawing and knitting and embroidering by machine, the making of fishing nets, hammocks, blankets and shoes from remnants. An opportunity for heavier bodily work is also afforded in the carpenters' and cabinet makers' shops and in farm-work. Business courses in typewriting, stenography, accounts, etc., are also given.

Entertainment, like work, is an important factor in psychic influence and should be often available. In the hospital there are various facilities for this purpose, the gymnasium with all its opportunities for games and exercises being an attractive center. To induce the men to take part in these exercises various rewards are offered such as better rations, personal privileges, freedom from strict supervision, and sometimes small money prizes. Formal entertainments in the evening such as concerts and recitals are not enjoyed so much as the light forms of entertainment arranged by the patients themselves.

Strict discipline, together with a close cooperation of attendants, is indispensable for success. The results obtained so far have been fairly satisfactory since

one-third of the men were discharged after a period of three months. The writer believes that the outlook for the future will be even brighter when this systematic occupation therapy will have been in force for a longer period.

Riebeth, *Neurasthenia Among Soldiers (Über Neurasthenie bei Kriegsteilnehmern)* Psych.-neurol. Woch., Hamburg, July 3, 1915, p. 71-76

The statement that victory in a war of to-day will go to the nation possessing the strongest nerves has been made many times. One of the nervous affections tending most to lower the power of resistance of the nervous system and the physical fitness of the soldier is neurasthenia. Observations upon 2,526 soldiers treated in a special hospital showed that neurasthenia, next to hysteria and psychoneuroses, is the most frequently found nervous disorder. True psychoses are comparatively rare. Neurasthenic states were found in all classes of the city population and in the peasantry but were not frequent among the professional and industrial classes of large cities. The etiological factors are the same in war as in peace, although the clinical pictures were somewhat affected by war conditions. These causative factors may be of a psychical or physical nature. A strict differentiation of the two can rarely be made. Usually they are coexistent. Among physical causes may be mentioned over-exertion, insufficient sleep or nutrition, loss of blood after wounds, fever, pain, suppuration and infectious diseases, especially typhoid fever. Among psychical causative factors are the tremendous nervous strain of being under fire in long battles in which heavy artillery now plays so important a part, the continuous effort to keep the attention fixed, the frightful scenes of the battlefield, mutilation of friends and comrades, and, last but not least, anxiety and worry about families left at home in probable danger.

The writer divides the symptomatology of neurasthenia into cerebral, psychic, spinal, gastro-intestinal, cardio-vascular and sexual manifestations. He groups neurasthenic disorders as to their origin, into exogenous and endogenous types. In the former the exciting cause is an injury or event affecting the nervous system of mentally healthy individuals; in the latter, the chief etiological factor is nervous insufficiency in persons with a congenital predisposition. The exogenous type is often found at the front after great battles and also at hospitals in the interior after long or arduous transportation experiences.

In such cases the clinical picture is unvaried—apathy, craving for rest and sleep, a tendency to ill humor and a desire to be let alone. More severe cases can sleep little and when they do so have terrifying dreams; they are in a continuous state of emotional excitement and fancy they have symptoms of all kinds of ailments. Usually, after a few days of rest and sufficient food, a normal state of mind is regained. Cases with onset before the war are not necessarily of endogenous origin, especially in men who have done over-strenuous brain-work and so are likely to be in a state of acquired chronic nervous exhaustion.

In most instances, rest, quiet and good and sufficient food will bring about a complete cure. Therapeutic measures should be employed, if for no other reason than for their beneficial psychic effect. These should be limited to three sittings a week. Hydrotherapy in all its forms is especially important. Diet is a chief factor. Treatment by electricity may be used to advantage. Cases of this kind are very susceptible to psychotherapeutics, in which, needless to say, the personality of the physician plays a most important part. Very nervous patients should always have a private room. Two months should be the limit for hospital stay.

The writer lays great stress upon supplying discharged patients with suitable occupation. Outdoor work is the best. Sometimes such cases may be sent

back into the service and employed at the rear of the army. Provision may be made also for cases unfit for any kind of work and so discharged. The condition is likely to become serious again and alcohol is often an easy solace.

Binswanger, Otto. Hystero-somatic Symptoms in War Hysteria (Hystero-Somatische Krankheitserscheinungen bei der Kriegshysterie) Monat. für Psych. u. Neurol. Berlin, 38: 1-60, July and Aug. 1915

The article is based upon the experience of the writer in a hospital for nervous diseases during the first seven months of the war.

War neurology has demonstrated that emotional shock, in conjunction with other injuries, may cause a symptom complex identical in all its details with the well known clinical picture of hysteria. It is the purpose of the writer to show that these symptoms may develop also in individuals who have always been perfectly healthy and in whom no neuropsychopathic constitutional anomalies can be demonstrated.

In many cases it was proved that excessive physical over-exertion lasting for weeks, insufficient food, loss of sleep, etc., had lowered the power of physical resistance, and that emotional factors, such as the strain caused by many days in the trenches under continuous shell-fire, had prepared for the breakdown. Some violent, unexpected psychic shock was all that was necessary. A factor is here met with, which is not characteristic of the modern conception of hysteria. In the majority of shell shock cases the patients reported having been blown up often as high as ten metres, and witnesses confirmed this statement. Some said they had distinctly felt, before they lost consciousness, the tremendous atmospheric pressure caused by the explosion.

Binswanger's theory is that the mechanical injury of distinct sectors of the nervous system, which takes the form of molecular changes within injured neurons, gives the clinical picture in such cases its distinctive character. In confirmation of the same theory, hysteriosomatic disturbances were found in functional regions which, before the war, had shown pathological affections. Thus, hysterical dysbasia and abasia, with or without tremor, frequently became acute in soldiers, who, before the war, had been treated for debility, tendency to fatigue, paresthesia, etc. Reports of a number of interesting cases are given showing that, in states of war-hysteria, new hysterical symptoms may appear after very slight exciting causes, but only in organs previously injured. There are, however, cases in which no such process of preparation nor preexisting organic injuries can be demonstrated, and in these the violent psychic shock alone must be considered the etiological factor.

As opposed to other observers, Binswanger considers hyperesthesia and anesthesia, hyperalgesia and analgesia the most important symptoms of such disorders as found in peace times, and that their mere existence forms a conclusive diagnosis under such conditions; however, in cases of war hysteria, hemianesthesia or hemianalgesia are seldom found because war hysterics are rarely constitutional hysterics.

The writer next discusses in detail, with illustrations, the fact that sensory and motor disturbances are always associated.

Tremor is a chief symptom of hysteria in males. Seventeen case histories are reported in detail, with prognosis. From these cases the author draws the following conclusions:

1. War hysteria, from the point of view of clinical picture and hystero-somatic complex, may be divided into two chief classes: (a) cases in which family and personal histories prove a pre-existent hysteropathia constitution; these cases are very few in number; (b) cases in which there is no proof of predisposition.

2. Cases of hysteria have developed even before the war under the influence of psychic tension, physical exertion and minor organic diseases. In such cases the chief etiological factors were emotional, cerebral or spinal shock, and toxic effects of noxious gases. Exciting causes of both groups were over-exertion, irregular and insufficient nutrition, loss of sleep and high mental tension.

3. The hystero-somatic clinical pictures developed either immediately after the onset of the causal factor, or after a period of incubation.

4. The clinical symptoms of groups 1 and 2 are the same. However, the most varied combinations of motor sensory, angio-neurotic and secretory disturbances of an irritative or inhibitive character are found. The most frequent manifestations are tremors of all kinds, shaking dysbasias and astasias, monoplegias, monoparesis and hemiparesis with contracture, slight spastic conditions, and finally affections of the pain-sensations.

5. The theory of a psychic mechanism as the origin of these motor and sensory symptoms is not demonstrable.

6. Proof of the psychogenic character of hystero-somatic disturbances, on the other hand, can be deduced from the success of the therapeutic methods used in treatment. The case histories previously cited show that, because of erroneous opinions as to the real nature of the trouble, all sorts of physical and medical treatment proved valueless. When finally hydrotherapy and electrotherapy were used, it was always as suggestive, not physical, agents. Psychotherapy was the only treatment that promised to be generally successful. Gymnastic exercises were used, not only to increase the physical health of the patient, but also to train the attention and the will power. When the first signs of improvement occurred, to the regular treatment was added some form of occupation or recreation compatible with the patient's taste and education. Keeping the patient busy, restoring his self-confidence, and giving sympathetic encouragement brought about wonderful results, although allowance had to be made for failures. Hysteria, especially aphonia, is the most stubborn of the nervous affections to treat.

Mann, Ludwig. Disturbances following Shell-Explosions (Über Granatexplosionsstörungen) *Med. Klin.*, Berlin, 11: 963-64, Aug. 29, 1915

There is always a question as to the nosological conception of cases resulting from shell explosions in all discussions of this subject. This is undoubtedly due to the confusing nomenclature. Some writers use the term "shell contusion", and others, Wollenberg and Westphal, speak of "shell concussion". These terms, however, apply only to one group of cases, since not all cases are characterized by a contusion or a concussion. The individual temperament is an important factor in all non organic conditions and this accounts for the great variety of clinical pictures. Other factors such as fatigue, exhaustion and emotional states are also present. For these reasons the etiological factor only should be considered and the diagnosis of such cases should be expressed as "disturbances following shell explosions".

Among the twenty-three cases observed by the writer of mental disorders following shell-fire one is of great interest in as much as the emotional state produced by his occupation, namely, that of digging and filling military graves, was a direct cause. These feelings resulted in a condition of mental dullness, during which he did not react to any external impressions. Even while his condition was improving, the mere mention of war was sufficient to cause a total relapse into his former state. The memory of the olfactory sensations received during his occupation was very painful to him.

In two cases only was alcohol an important etiological factor. Conditions of paralysis were very frequent, among them deafness, mutism and deaf-mutism.

There is still a question, however, as to whether or not the actual air contusion and detonation are to be regarded as direct causes of these conditions. This question is influenced by the fact that, in most cases, no apparent lesions exist and psychotherapy is the most efficacious treatment.

In two cases simple treatment of the laryngeal region with the faradic current brought speech back. Treatment by suggestion cured another case of deafness. This seems to demonstrate that these disturbances are of psychogenic origin. There was also a case of paresis of both legs and one arm following immediately the explosion of a shell but without any organic lesions. In two cases peculiar change in the grammatical use of language was observed. The men talked like children, for example, "I headache", "I not well". In another case the patient was relieved of the spasms of one leg and tremors by any involuntary movement on his part.

How are these conditions to be explained? In some cases predisposition could be proved but not in the majority. Most of the men were hardened soldiers who had been in the firing-line more than once. They had probably been through great hardships and deprivations and were in a condition of physical and mental exhaustion, or they were in a state of maximum mental tension. Under such conditions, the explosion makes a strong and deep impression and remains intimately connected with memory of the accompanying events.

The psychological explanation of these disturbances is only a matter of speculation. The following two theories may be suggestive: (1) An outlet for the strongest emotions at the moment is presented by the oncoming unconsciousness. There is therefore no reaction to these emotions and they are repressed. (2) Normally there exists an inhibitive mechanism preventing a centripetal stimulus from being transferred to the centrifugal paths. This stimulus first reaches the higher centers in order to cause a motor innervation. It is possible that by a coincidence of particular circumstances such as exhaustion, surprise, fright, acoustic impressions, etc., a centripetal stimulus of great strength reaches the brain so suddenly that the inhibitive mechanism breaks down, thus allowing the stimulus to reach the motor tracks and so prevent a normal innervation.

The prognosis in purely mental disturbances following explosions generally is favorable but this depends on the predisposition of the patient. A hysteric will always remain a hysteric. In a case of temporary monosymptomatic hysteria, complete rest brought about a cure. A correct early diagnosis is important, however, in order to send the patient to a special hospital without any loss of time.

Hoffmann, Rudolph. Labyrinthine Disturbances (Detonationslabyrinthosen) Münch. med. Woch. 62: 1269-70, Sept. 14, 1915

The writer emphasizes a certain symptom that he found among fifty cases of auditory injuries caused by detonations, which was hitherto practically unknown. In each case of labyrinthine shock, sensory disturbances of the external ear could be proven, but pure affections of the auditory apparatus were never demonstrable. An extreme sensibility of the external meatus to heat and cold was apparent. The disturbances of sensibility varied according to the injury done. In the most severe cases there was complete analgesia.

The sensory disturbances were not dependent on the distribution of the peripheral nerves. In most cases they involved the whole external ear and a zone of a finger's breadth around it. The writer believes that to classify these sensory disturbances as hysteria would be incorrect since there were no other clinical symptoms. Symptoms relating to the vestibular canal were of very slight prominence. Vertigo was present but soon disappeared. Spontaneous nystagmus never occurred. It may be of interest to note that collections of cerumen in the ear and chronic otitis media offered a certain protection against the effects of detonation. The treatment of these cases consisted of rest in bed for the first

few days. As internal medication twenty-five drops of tincture of valerian were given. Bromides were never used. In all such cases, suitable occupations and reading matter should be provided. The nurses should talk to the patients in clear and loud tones so that they may not realize their defects of hearing. Patients with a bilateral impairment of the cochlea nerve should be taught lip reading. A few interesting cases are described.

Weygandt, W. Observations on War Psychiatry (Kriegs-psychiatrische Beobachtungen) Psych. neurol. Woch., Hamburg, Dec. 11, 1915, p. 215-16

The writer has observed that frequently men who were absolutely healthy before the war, and some who had had symptoms of epilepsy from which they had apparently recovered, during the war developed hysterical disturbances showing epileptiform symptoms.

The prognosis in cases following shock or exhaustion is very favorable so that such cases need not be considered unfit for further service, especially as there is such a great need for recruits. When the question of indemnity arises it is difficult to state definitely, in such cases of psychic disturbance, that shock and fatigue are the only causes of the condition, but we must admit that war experiences are direct causes of the disease in individuals with a luetic taint, in manic depressives and in cases of dementia praecox.

In cases of so-called "mobilization psychosis", particularly of the catatonic or paranoid form, a latent pre-existing psychosis must frequently be assumed.

Nonne, Max. The Therapeutic Use of Hypnosis for Cases of War Hysteria (Zur therapeutischen Verwendung der Hypnose bei Fällen von Kriegshysterie) Med. Klin., Berlin, 11:1391-96, Dec. 19, 1915

The writer has come to the conclusion, through his observations, that hysteria is the most frequent of all war neuroses. After a very clear and comprehensive definition of hysteria according to his conception of the term, he discusses diagnosis. The first point emphasized is that the clinical picture and course of the case prove absolutely the presence of a purely functional disturbance; whether in the genesis of the clinical picture mechanical, psychogenic or ideogenic factors were wholly or partly active or entirely absent is of no consequence in the practical diagnosis. To speak of cramp neurosis, akinesia, dyskinesia amnestica, fright neurosis, anxiety neurosis, cardio-vascular symptom complex, etc., has no point; this giving to certain clinical pictures names suggesting the possibility of incurability is to be strictly avoided.

Nonne found 151 neuroses among 352 nervous cases that came under his care. Yet the proportion of such cases is comparatively small when one realizes that, in making the rounds of the reserve hospitals of the — Army Corps, among 600 patients there were only ten cases of war neurosis. The writer believes that a wrong impression as to this proportion has been spread abroad through incorrect diagnoses. He describes in detail several cases labelled as organic in which the predominant symptoms disappeared after a few hypnotic treatments, and admits that such faulty diagnoses are easily made in cases in which hysterical paralysis is associated with vasomotor disturbances. It is surprising to note the disappearance of the chief symptoms as soon as the functional vasomotor disturbances are removed.

Hysterical disturbances were usually monosymptomatic. The majority of cases had never shown any previous signs of nervous disturbance or of a neuro-

pathic condition. An initial state of unconsciousness was usual, but some cases showed no disturbance of consciousness at any time.

The writer's observations led him to the conclusion that in most cases no cure is possible. Sometimes there is a temporary cessation of symptoms, but the cure is rarely lasting or complete. Curative measures employed were hydrotherapy, electrotherapy, massage, gymnastics, and mental suggestion. Hypnotism has rarely been used, for there is a marked prejudice on the part of the medical profession against its employment as a therapeutic method. The author makes a strong plea for its use, not only in helping the patient to recover from his disabling symptoms, but also in clarifying the diagnoses of doubtful cases. In the sixty-three cases treated by him, the predominating symptoms were as follows:

Abasia astasia.....	14
Superior monoplegia.....	11
Inferior paraplegia.....	5
Hemiplegia.....	3
Mutism.....	5
General tremors.....	12
Isolated muscle contractures.....	6
Isolated sensory disturbances.....	1
Isolated tics.....	4
Isolated respiratory spasms.....	2

Of these sixty-three cases, fifty-one were cured, or rather freed of their symptoms. One case out of each of the above groups is described in detail. One quick spontaneous cure, and this only a partial one, occurred in the total number of cases. Five patients were cured by suggestion without inducing hypnotic sleep, and twenty-eight quick cures followed the use of hypnotism. In twenty-three cases gradual cures were brought about through employing hypnosis. In closing, Nonne summarizes the etiological factors cooperating in the production of the symptom complex of hysteria. Among the least important are neuropathic heredity and diathesis. Hypnosis was used with equal success for such cases and for patients who had no such abnormality. The various classes of society and city and country dwellers showed about the same degree of responsiveness to hypnotic treatment.

Löwy, Max. Neurological and Psychiatric Observations on the War
(*Neurologische und psychiatrische Mitteilungen aus dem Kriege*) Monat. für Psych. u. Neurol., Berlin, 37: 380, 1915

With the exception of a few cases of intercostal neuralgia, trigeminal neuralgia, herpes zoster, tetanus following dysentery and a larger number of cases of eschias, neurological and psychiatric disturbances in the writer's regiment were rare. This regiment belonged to the "Landsturm" and was composed mostly of men between the ages of thirty-two and thirty-eight. Light beer was used on the average of from three to four pint-glasses a day. This amount was increased, however, on Sundays and holidays. Whiskey and wine were rarely used. Men such as saloon-keepers, waiters, cooks, etc., with an alcoholic predisposition, developed cases of alcoholism.

The majority of psychoses present were depression, manic-depression, and compulsive ideas on a depressive and psychasthenic basis, hypochondria, dementia precox and epilepsy. Attempts at suicide were rare. All those with manifest psychoses had been excluded at the time of the physical examination for recruits, therefore the number of cases occurring later was smaller than had been expected.

Since war is like prison in as much as it causes a total change of the conditions of life, one might expect to find clinical pictures resembling prison psychoses.

However, only two such cases occurred, one with Ganser's syndrome, and the other with paranoid phantasy symptoms accompanied by hallucinations, but with no loss of orientation.

It is also remarkable that among 1,000 soldiers who habitually used alcohol in moderate and sometimes larger quantities there was not a single case of delirium tremens after several weeks of total abstinence in spite of the presence of predisposing factors such as gastro-intestinal disturbances, fever, pneumonia, pleurisy, etc. Fresh air and vigorous exercise seemed to offset somewhat the effects of predisposition. In one case the use of alcohol after long abstinence caused a pathological intoxication.

The effects of heavy shell-fire are next in importance to alcohol as an etiological factor in psychiatric cases. Diarrhea and an increase in dysentery during heavy shell-fire was frequently observed. Paresthesia and weakness in the legs often remained days after the cannonade had ceased. Some paresthetics showed symptoms of symmetrical hysteriform analgesia of the hands and feet, most frequently of the glove and stocking type. One case complained of poor eyesight, and one showed a limitation in the field of vision. There was also one instance of traumatic neurosis with a suggestion of verberation. Cases of epilepsy during the march or in the fighting line were rare.

Meyer, S. War Hysteria (Kriegshysterie) Deutsche med. Woch., Berlin, 42: 69-71, Jan. 20, 1916

The clinical picture of hysteria changes with periods of time and with man. It reflects like a mirror phases of the mental states of man,—the races, classes, sexes, and different degrees and kinds of education. Hysteria always follows in the wake of great movements, therefore it is to be expected that we should find it now accompanying the world war.

A traditional theory has existed that hysterical symptoms can always be traced back to suggestion or auto-suggestion; that hysteria is really imaginary. The war has proved conclusively that the cause of hysteric states must be more than mere suggestion; that the patient must have had an actual, disturbing experience to develop such symptoms. The forms in which hysteria appears are strongly influenced by the war. For instance, hysterical paralyses are very rare among males in times of peace, but in wartime they are numerous, and were invariably, in the author's experience, sequelae of shell explosions or of injuries from bullets, resulting in inability to use the limbs. Contractures are often found and sometimes a combination of contracture and hysterical paralysis.

Prognosis in cases of hysterical paralysis following shock is usually favorable, but paraplegias resulting from bullet wounds are apt to resist treatment rather stubbornly. The writer condemns strongly the suggestion theory of the origin of hysteria in treating patients. He advocates assuring cases that their organs are intact and that they will certainly recover the use of them, but he denies that they can be "talked out of" their disease any more than that they have been "talked into it."

The exciting causes of war hysteria are varied, but all have a common element—the affective factor which is the *sine quo non* of the production of the disease. On the other hand, in the hysteria of everyday life, we have to deal with a continuation and intensification of symptoms due to some pathological organic condition.

Treatment is not easy, but is invariably successful if the patient can be convinced that he is improving.

Such cases should never be returned to the ranks, as relapses are almost inevitable.

**Schultz, J. H., and Meyer, Robert. On the Clinical Analysis --
Effect of Shell-shock (Zür klinischen Analyse der Granatschock-
wirkung) Med. Klin., Berlin, 12: 230-33, Feb. 27, 1916**

The term "shell-shock" is often applied to the diagnosis of cases where the symptoms are not all recognized. It is used in about the same way that "traumatic neurosis" is used in times of peace. "Shell-shocked" patients are those who have been in close proximity to an exploding shell, but who have not received any visible injuries. They may complain of headache, auditory and equilibratory disturbances, insomnia, changes of personality, irritative motor symptoms and tremors. All these complaints must be carefully considered, and close cooperation of neurologist and otologist is advised. The Barany test is indispensable. The writers have had their patients examined by an otologist first. He subclassified them into (a) cases with traumatic rupture of ear drum, and (b) those with the otoscopic picture of a normal drum. Both groups had an impairment of hearing in one or both ears.

The histories of patients were recorded as completely as possible. The Barany test was finally given but, since no revolving chairs were obtainable, the observations were limited to the phenomena occurring spontaneously or after caloric stimulation.

Several cases from the above mentioned groups are described. To illustrate the method of examination, a single typical case will suffice. A certain soldier came under observation three days after a shell had exploded directly in front of him. He claimed to have been unconscious for fifteen minutes, and, from that time on, to have suffered from vertigo, impairment of hearing and headache, especially over the eyes and in the occipital region. There had been no vomiting however. Otoscopy showed both drums unaffected, with normal light reflex. However the power of hearing was diminished in both ears. Family history was negative. The patient had taken part in the campaign from the beginning and had had dysentery. He now complained of "being easily startled" and of disturbed sleep. Examination showed sluggishness of pupillary reflexes to all stimuli, mild tremors of hands and tongue, and slightly increased reflexes.

The writers draw the following conclusions:

Psychopathic individuals react upon a psychophysical injury with various symptoms which are not to be explained by the nature of the injury but by the mode of reaction of the individual case. It is for this reason that predisposed individuals will invariably, in case of shell-shock, show the same type of psychopathic symptoms that would be likely to arise under other conditions of strain. A few cases are described to show that prognosis in non-predisposed individuals, even in cases of severe labyrinthine disturbance, is much better than that in predisposed persons.

As forms of treatment the authors suggest isolation, hypnosis, psychotherapy, catheterization and massage in accordance with individual requirements.

ITALIAN LITERATURE

PERIODICALS ABSTRACTED

Chirurgia degli Organi di Movimento, Bologna

Giornale di Medicina Militare, Rome

Policlinico, Rome

Riforma Medica, Naples

Rivista di Patologia Nervosa e Mentale, Florence

Rivista Italiana di Neuropatologia, Psichiatria ed Elettroterapia, Catania

ITALIAN LITERATURE

Mingazzini, G. Syndromes of Organic Nervous Lesions following Shots through the Brain (Sindromi nervose organiche consecutive a lesioni da pioviettili del cervello) Policlinico, Rome, 23: 409-28, Dec. 1916

The writer, as director of the clinic for nervous diseases at Rome has had ample opportunity to study cases of bullet shot through the brain. He describes in detail seven cases, which may be summarized as follows:

1. Penetrating shot through the left parietal bone, corresponding to the Rolandic area, resulted in glosso-facio-brachial paresis on the right side. The accompanying symptoms are hypesthesia, stereognosis and pain and heaviness in the region of the skull lesion. A secondary operation brought great relief.

2. Tangential shot through the left parietal bone, causing lesion of the superior part of the Rolandic area resulted in spastic hemiplegia with atrophy of the right hand and foot, muscular epileptiform spasms of the Jacksonian type on the same side, and marked motor abasia and hypesthesia, especially pronounced in the arm. An operation cleared up these symptoms, leaving only hemi-hypesthesia.

3. Penetrating shot through the antero-medial part of the right parietal bone, causing compression of the middle third of the paracentral lying underneath, resulted in severe left hypesthesia and hemiplegia. When the bone splinters had been removed, a crural monoparesis still remained, together with a more circumscribed hypesthesia.

4. Penetrating shot through the left parietal bone, injuring the underlying cerebral tissues, resulted in severe dysarthria, spastic paralysis of right side, Jacksonian epileptic fits and right hemi-hypesthesia. An operation did away with all symptoms but did not affect the sensory disorders.

5. Penetrating shot through the left parietal bone, causing lesion of the Rolandic area, was followed by complete motor aphasia, right hemiplegia and hypesthesia. Operation removed the aphasia and somewhat lessened the paralysis but did not alter the sensory disorders.

6. Serious injury to the right parietal bone caused abscess in the Rolandic area. When the abscess was healed, the following syndrome remained: spastic paralysis of the extremities on the left side, with atrophy more marked in the upper, Jacksonian convulsions in these same limbs, hypesthesia and petit mal seizures.

7. Shot through the postero-lateral region of the left frontal bone with compression of the centers of Broca and Rolando resulted in motor aphasia and right hemiparesis. An operation did away with these symptoms but a marked asthenia in the extremities of the right side and a severe dysarthria appeared. From these observations the writer draws the following conclusions:

1. Broca's region contains the speech centers and so influences directly articulation. A lesion of this area may therefore give rise to motor aphasia and sometimes to dysarthria.

2. Marburg and Ranzi's statements, that bullet injuries of the brain result at first in a flaccid paralysis which only rarely tends to become spastic, should be modified. The writer has observed many cases with persistent spastic paralysis associated with contractures.

3. Motor and sensory areas must be well separated, the latter extending in a posterior direction much farther than the former. The writer believes this, since in most cases operations cleared up the motor disturbances but did not affect the sensory disturbances.

Sandro, D. de. Functional Mutism from a Bomb Explosion and Hysterical Mutism; their Cure by Etherization (*Il mutismo funzionale da scoppio di granata e quello degli isterici. Loro cura con l'eterizzazione*) Riv. patol. nerv. e ment., Florence, 22: 9, Jan. 1917

A record of two cases, in a soldier aged 25 and a woman aged 35, in whom complete cure of their mutism took place after three or four minutes' inhalation of ether. The success of the treatment is attributed to the irritation of the respiratory tract in general and of the larynx in particular.—J. D. Rolleston, Rev. of neurology and psychiatry 15: 331, Aug. Sept. 1917.

Rédard, Paolo. Inability to Straighten the Spine as Effect of War Traumatism. Chir. degli organi di movimento, Bologna, 1: 257-67, May 1917. Illus.

Rédard gives photographs of men who are unable to stand up straight, the attitude resembling that of one trying to touch the floor with his finger tips. One illustration shows twelve men with this form of contracture. The mild cases, with signs of hysteria, recover without much being done, but the medium cases require systematic treatment, and the grave cases with organic lesions in the spine and emaciation are usually rebellious to treatment. Psychotherapy and contrasuggestion are useful aids to the usual physical therapy. Men with the mild forms do best when sent home, and in any event should be kept apart from others with the same trouble. Attempts to straighten the spine should be made very gently. Forcible correction in psychoneuroses may induce deplorable aggravation. As the trouble is almost invariably curable sooner or later, the question of discharge from the army on account of disability should not be even suggested.—J. A. M. A. 70: 350, Feb. 2, 1918.

Seppilli, G. Mental Disturbances in Soldiers in Relation to War (*I disturbi mentali nei militari in rapporto alla guerra*) Riv. ital. neuropatol., psichiatr. ed elettrotet., Catania, 10: 105-14, May 1917. References

Although there is no special war psychosis, war favours the development of some psychopathic states rather than others, especially those in which the emotional factor and physical factor constitute an important etiological element.

Among 260 soldiers admitted to the asylum at Brescia the majority presented confusional syndromes. Other psychoses were less frequent. Neurasthenia and hysterical syndromes were seen, especially those showing ambulatory determinism and other atypical forms.—J. D. Rolleston, Rev. of neurology and psychiatry 15: 337, Aug.-Sept. 1917.

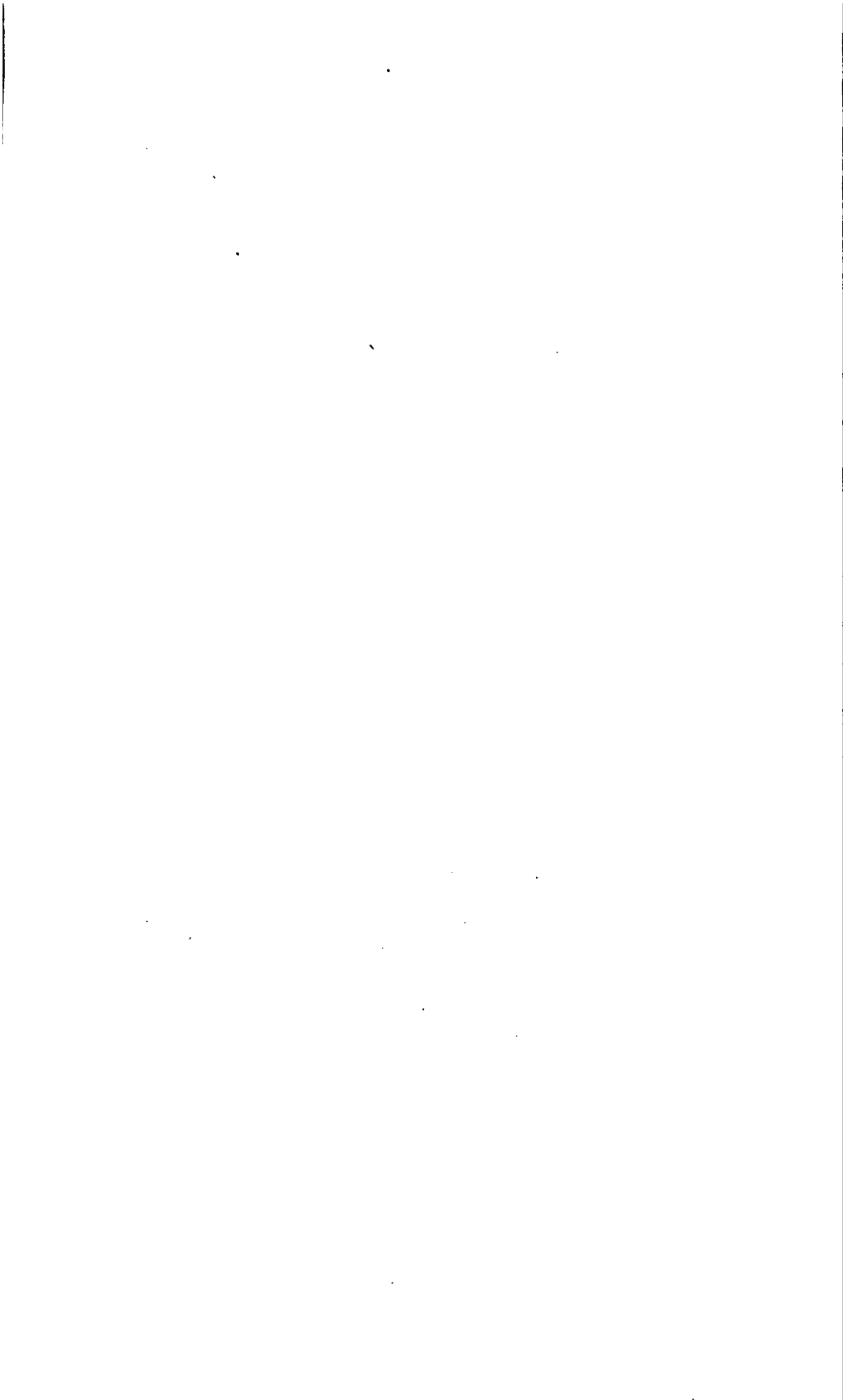
Agostini, Cesare. Use of Epileptics in the War Zone (*Sulla utilizzazione degli epilettici in zona di guerra*) G. med. mil., Rome, 67: 24-33, Jan. 31, 1918

Agostini seriously discusses this subject. The likelihood of seizures at inopportune moments would ordinarily eliminate the epileptic from any sort of military service. Nevertheless "epilepsy" is a very elastic term, comprising numerous conditions in which major crises do not occur, as well as states which, while attended with convulsions, belong not really under epilepsy but under psychasthenia. It is the subject who suffers only with the infrequent mild or abortive crisis or symptomatic paroxysm who could be utilized for military work. It is admitted that war has caused or awakened only a very small number of cases of

true epilepsy. Many subjects of trifling epilepsy are interned in insane asylums and prisons and some of them have learned trades and become skilled workmen. Such men are also found in civil life, supporting themselves and but little inconvenienced by their infrequent, mild seizures. Of 142 alleged epileptics referred to the author's insane asylum, not over a third proved to be true epileptics. The same overwhelming proportion of false epileptics occur in other statistics. Apparently the skilled artisans among these subjects are those most needed.—*Med. rec.* 93: 644, April 13, 1918.

Gatti, L. Paralysis from Shell Air Shock. *Rif. med.*, Naples, 34: 102, Feb. 9, 1918

Gatti reports a case of extremely acute paralysis with atrophy following close on explosion of a large bomb without actual contact. The tetraplegia was of the type of anterior poliomyelitis, and Gatti assumes that the anterior portion of the spinal cord had been injured by the air contusion. He knows of only one similar case on record. The paralysis and the atrophy gradually invaded all the musculature except in the head and neck, but there were no sensory disturbances and the sphincters behaved normally. Instances of traumatic anterior poliomyelitis are on record. Some injury of the blood vessels in the bulbar region is evidently responsible for the whole set of symptoms.—*J. A. M. A.* 70: 1267, April 27, 1918.



LITERATURE OF THE NETHERLANDS

PERIODICALS ABSTRACTED

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

LITERATURE OF THE NETHERLANDS

Van der Hoeven, H. Psychoses in Camp. *Nederlandsch tijdschrift voor geneeskunde*, Amsterdam, 1: 158, Jan. 19, 1918

Van der Hoeven relates that complete anesthesia of both halves of the body was found almost constantly in the several hundred soldiers that have passed through his service for nervous and mental disease. He found further that a large percentage of the men could have the cornea struck with the handle of a percussion hammer without the least trace of pain. There was lacrimation but no pain. Restriction of the visual field was common, and urticaria was easily induced by stroking the skin. He comments on the difficulty in the military environment of examining men with psychopathies. The commander assumes simulation whenever a man with normal temperature complains of symptoms, and it is a fact that now all the manifestations of disease are more or less influenced in the soldier by his distaste for military service and his longing to go home. Entirely opposite to the experiences in civilian circles, the mobilized Netherlands soldier more or less unconsciously strives to make the most impressive presentation of his symptoms. With all other forms of disability, the classification of the men as fitted for full duty, light duty, and capable only of manual work, has proved beneficial, but not so with the psychopathies.—J. A. M. A. 70: 1046, April 6, 1918.

RUSSIAN LITERATURE

PERIODICALS ABSTRACTED

Russkiy Vrach, Petrograd

RUSSIAN LITERATURE

Soukhanoff, S. A. War Psychoneuroses. *Russkiy vrach*, v. 14, 1915

Soukhanoff does not admit that the war generates special psychoses which might be referred to a new definite group of mental derangement. Only the external manifestations of the usual psychoses may be modified; the essential, fundamental symptoms and signs remain unchanged. The most common psychoneurosis, the traumatic, appears in two forms: the commotional type, due to air concussion of the central nervous system, and the psychogenous hysterical type, caused by the emotional shock. Then there also occur combined forms in which the symptoms of both these types are found. In some cases, the psychogenous hysterical phenomena complicate the clinical picture of an already existing neurosis, such as psychasthenia and epilepsy. Finally, it must be admitted that air concussion may cause anatomic changes in the viscera and the central nervous system, even without external lesions.—*J. A. M. A.* 65:1150, Sept. 25, 1915.

SCANDINAVIAN LITERATURE

PERIODICALS ABSTRACTED

Hygiea, Stockholm

SCANDINAVIAN LITERATURE

Nordlund, H. To Detect Simulation of Deafness. *Hygiea*, Stockholm, 79: 1361, Dec. 31, 1917

The long list of measures that have been proposed to detect malingering in regard to the hearing shows that none of them is absolutely reliable. Nordlund describes fourteen methods based on speech; eleven tuning fork or similar methods, and seven methods for detecting bilateral deafness. Few attempt to simulate absolute bilateral deafness; if it is attempted, the Gowseef method or the Kindlmann method is instructive. With the former, the man's back is brushed with a brush or the hand or both. Then the investigator uses only one on the subject and the other on his own coat, brushing his own coat with the brush or hand while the subject's coat is brushed with the other. The sound and the touch combine so that the normally hearing are unable to tell whether the hand or the brush is being used on their own backs. The deaf person, not hearing the sound on the other person, is able to tell by the sensation on his own back which is being used. Unilateral deafness is tested best, perhaps, with the Lombard-Bárány method, that is, the use of an apparatus that produces a noise intermittently while the subject is reading aloud in his ordinary voice. Unconsciously he raises his voice and loses control of it when he hears the noise of the automatic drum. It may be necessary to apply a number of the tests to detect the simulation; if all give concordant results, they may be accepted as conclusive.—J. A. M. A. 70: 968, March 30, 1918.

LITERATURE OF THE UNITED STATES

PERIODICALS ABSTRACTED

- American Journal of Public Health, Boston**
- American Medicine, New York City**
- Boston Medical and Surgical Journal**
- Journal of the American Medical Association, Chicago**
- Medical Record, New York City**
- Mental Hygiene, New York City**
- Military Surgeon, Washington**
- New York Medical Journal**
- New York State Hospital Quarterly, Utica**
- Proceedings of the Boston Society of Psychiatry and Neurology**
- Proceedings of the New York Neurological Society**
- Proceedings of the United States National Academy of Sciences,
Washington**

LITERATURE OF THE UNITED STATES

Auer, E. Murray. Some of the Nervous and Mental Conditions Arising in the Present War. *Mental hygiene* 1: 383-88, July 1917

Auer advocates the assigning at base hospitals of huts to the neuropsychiatric service where soldiers suffering from functional nervous and mental conditions may receive treatment in the way of rest, isolation, proper food, etc.

The great change for the soldier usually occurs on the firing line. The average man goes into training directly from indoor office work and is greatly improved physically and morally by this training and by the outdoor life, but later the fatigue of long marches, exposure, worry, the monotony of the trenches, morbid fears, horrible sights, all tend to fan to a flame any neuropathic predisposition—and careful inquiry into individual histories has almost invariably shown that earlier neurotic manifestations can be proved in cases of nervous breakdown. Physically these individuals are of the average masculine type, often exhibiting stigmata of degeneration, such as low brow, facial asymmetry, adherent lobules, deviated septum, high palate, etc.

Auer cites briefly a number of illustrations, taken from his observations while on hospital duty with the British expeditionary force, of the numerous and varied manifestations of "shell shock".

"The element of fear or anxiety was relatively uncommon, considering the wealth of fear-producing stimuli, but in the markedly neuropathic individuals one encountered a feeling of incompetence, a fear of doing something wrong and consequently being shot, a premonition of some impending danger, a fear that something might arise in which he would fail or of going to sleep lest he should not awaken.

"This outline is offered merely as a brief suggestion of the comprehensive possibilities and the necessity for trained neurologists and psychiatrists in the present great war. Depressing as are these manifold conditions, it is with intense pleasure that one sees the usually fortunate outcome of proper care in their disappearance and the re-establishment of mental equilibrium. . . . At the base hospital one can fairly well employ psychotherapy in the form of absolute quiet, isolation, re-education and persuasion, and medicotherapy, hydrotherapy and lumbar puncture when indicated. I cannot insist too strongly upon the value of quiet, rest and isolation as practiced by placing screens when available between the cots in the early control of these cases. . . . Removed from the site of trauma, the noise, and din, reassured as to safety, after a complete rest of varied duration, the individual is almost invariably able again to resume his place in civil life, where in time he looks back upon his illness, as he himself not infrequently will say, 'as a dream,' or sometimes, more fortunately, has no recollection of his experience."

Farrar, Clarence B. The Problem of Mental Disease in the Canadian Army. *Mental hygiene* 1: 389-91, July 1917

Of the total number of soldiers invalided to Canada, the proportion of nervous and mental cases has been fairly constant at 10 per cent, classified as follows:

1. Neurotic reactions, 58 per cent.
2. Mental diseases and defect, 16 per cent.
3. Head injuries, 14 per cent.
4. Epilepsy and epileptoid, 8 per cent.
5. Organic diseases of the central nervous system, 4 per cent.

These figures are compiled from the returns of medical boards which examine the men to determine discharge disability.

Group 1 may be subdivided as follows: (a) Constitutional neurotic temperament. More or less permanent condition aggravated during service, not necessarily at the front. (b) Somatoneuroses. Injuries and illness whether pre-existent or due to service, upon which disproportionate subjective symptoms have been built, and which often long survive the actual physical disability. (c) Specific war-reactions developing in the majority of cases at the front under stress of fighting. Predisposition is of course very often demonstrable in these cases as well. Most typical of these reactions is the so-called "shell-shock," although, to be sure, this condition is common with others of the group is made up of symptoms characteristic of the neuroses in general. From the military records it is not possible to differentiate numerically these various types, but the third subgroup far outnumbers the others.

Group 2 comprises: (a) Psychoses of familiar types, the majority, as would be expected, being dementia praecox. (b) Primary mental defect. (c) Psychopathic inferiority. This condition, easily unrecognized in routine medical boards, has been the cause of many obvious difficulties. The class includes many of the inefficient and undesirable soldiers, whose history often shows that they have made good neither in civil nor military life. They are usually the trouble makers in the convalescent homes and furnish a considerable number of the men with grievances concerning pension claims and treatment of the returned soldier in general.

Group 3 is made up mostly of cases of gunshot or shell wounds of the head, with loss of bone. Strictly considered, the majority of these cases might be omitted from the categories of nervous and mental diseases. It is very rare for a head case of this sort to present symptoms of neurosis or psychosis. Variable headache and dizziness are the only fairly constant symptoms.

In group 4 the percentage of genuine epilepsy is not determinable from available records. Some of the cases with epileptiform convulsions turn out to be initial paresis, or dementia praecox, or a neurosis.

Group 5, the smallest of all, is made up chiefly of paresis and tabes, with rare diagnoses of brain tumor, multiple sclerosis, etc.

The program of differentiation and group treatment of nervous and mental conditions among returned soldiers in Canada includes:

1. A reception hospital for war neuroses and similar conditions, observation of doubtful states, etc. These cases are received at the Ontario Military Hospital at Cobourg.

2. An institution for the severe and chronic types of mental disease. Hitherto these cases have as a rule been sent to the provincial hospitals in their respective districts.

3. The establishment of an institution or colony for epileptics is under consideration.

4. The establishment of a center for the observation and treatment of syphilitic conditions is also contemplated. In most of the cases of paresis and tabes there is a pre-enlistment history of infection, but the evidence on the records points as a rule to the development of the disabling symptoms during service. The question of pensionability in many cases offers considerable difficulty. The importance of attention to syphilitic history and serological and neurological evidence of syphilis at examination of recruits is very obvious.

Hitherto where syphilitic treatment has been indicated in continuation of that begun overseas, this has as a rule been done in active treatment hospitals, while the later cases, such as paresis, have found their way to the provincial hospitals. An initial segregation of all syphilitic cases among returned men at a center where all the indications of observation, classification and treatment could be met is believed to be desirable.

5. Convalescent homes. These were the first institutions established in Canada for the reception of disabled soldiers and accommodate all types of convalescents. While there is but one special institution of each type above referred to, the convalescent homes are scattered throughout the Dominion and to them cases are transferred when treatment has reached a late stage and especially if it is desirable that an invalid should be in an institution in his home district.

The war reactions outnumber probably all other types of nervous disability combined and demand proportionate attention in management and treatment. At the special institution at Cobourg the following points are kept in mind:

(a) The maintenance of military discipline and individualized control is found to be of indispensable and first-rate importance in dealing with these cases.

(b) Hydro and electro-therapeutic treatment is of considerable service in many cases.

(c) Occupation-therapy with suitable variety of work is of almost universal importance.

Treatment of a highly specialized sort has been developed under the auspices of the psychological department of Toronto University, following the plan of motor training applied by Dr. Franz at the Government Hospital in Washington. This method is found useful in certain cases of functional paralysis, incoordination, affect-inhibitions, tremors, and other kinetic disorders.

In the general policy of caring for the war neuroses it has been demonstrated over and over again, that patients while under treatment should be shifted as little as possible from one institution to another. It is also as a rule not well to have the patient in the vicinity of his home, and home visits are certainly contraindicated in the severer neuroses. The conscious will and purpose to get well are often difficult to establish and all opposing factors must be kept in mind.

MacCurdy, John T. War Neuroses. Psychiatric bull. 2: 243-354, July 1917

Dr. MacCurdy defines war neuroses as "those functional nervous conditions arising in soldiers which are immediately determined by modern warfare and have a symptomatology whose content is directly related to war." Two types of war neuroses exist and may be classified as (1) conditions of anxiety, and (2) conditions of simple conversion hysteria. Case histories illustrating these two types are given. The first trial the recruit usually meets is the experience of being shelled and he is immediately struck with fear. The sight of the mangled remains of comrades also creates horror and it is with great effort that the soldier is able to check his feelings and grow accustomed to these sights. Many such individuals do not fully recover from this state of mind and are therefore poorly adapted to a soldier's life. They are quickly fatigued and develop disabling symptoms. Fatigue is of great importance in the development of a neurosis as it is the almost universal occasion of the dissatisfaction with his work which leads to a breaking down of the soldier's adaptability and the development of more permanent symptoms. The conditions producing fatigue are both physical and mental. This condition is characterized by a feeling of tenseness, a restless desire for action or distraction, irritability, difficulty in concentration and a tendency to start at a sudden sound, such as that of exploding shells, without really being afraid. At night there is great difficulty in falling asleep with a long period of hypnagogic hallucinations. When sleep does come, it is troubled by dreams and therefore affords no real rest. When this condition persists for some time, fear develops and then horror at the sights of carnage. Either a physical accident or a mental shock may cause the final complete breakdown. The stuporous states that follow a concussion or some mental trauma may be characterized by a loss of consciousness followed by a period during which consciousness reappears and then subsides again. While conscious, the patient is extremely con-

fused, disoriented, complains of severe headache, is frequently incontinent or suffers from retention and may have to be catheterized. Delirium, too, at this time is a usual occurrence. In the functional type of stuporous state, the patient lies with dilated pupils, in a cold sweat, with shallow breathing, incapable of any voluntary movement and often trembling violently. When voluntary movement is possible he is dazed, inactive, confused and amnesic. In this stage of the neurosis, the patient's sleep is greatly troubled by violent nightmares and becomes something to be dreaded. Photophobia may be a frequent occurrence in the acute phases of the neuroses. Tremors are always present, and sometimes ataxia. Symptoms suggestive of disturbances of the thyroid glands are very frequent, but usually disappear in a short time. The eyes protrude slightly, and the upper eyelid may lag behind the eyeball on looking down; the pulse is rapid, there is excessive cold sweating and sometimes an enlargement of the thyroid gland. Emotional coldness and inability to express affection are frequent. These symptoms tend to subside after a few weeks, but may last months. The patient is still easily fatigued and still starts at sounds. Complications are likely to appear, the most frequent of which is depression. The patient is dissatisfied first with himself and then with the way in which he is treated. It is easy to differentiate between malingering and anxiety neuroses, since the malingerer will not speak frankly about his terror whereas the man in a true anxiety state does not try to conceal it.

The treatment of the anxiety states depends upon the individual and should be psychologically determined so that, whatever the cause, its effect may be removed. For this reason, consistent plans of treatment should be followed and patients transferred as little as possible from one hospital to another. They should be placed in a quiet environment and yet not too far away from the firing line so that they may not develop an idea of permanent freedom from military duties. The first step in treatment should be absolute rest, usually for a short time, so as to remove the fatigue symptoms. Sedatives should be used as little as possible, preferably only on the first night. The patient must then be told that he will soon recover but that he must help bring this about; that he will not be asked to do anything disadvantageous to his health but that, since his disease is curable, he will eventually have to be sent back to the line. Everything should be made as quiet and pleasant as possible for him. Occupation in some form should be provided in every case, but it should be under the control of the physician who should watch its effects on each patient. It is essential for a cure that the patient get some insight into the cause of his neurosis and that he be made to understand how he had developed a tendency to think of himself rather than of the need of the army and the country and so became a victim of fear and horror. When he sees that it was purely a selfish desire to avoid responsibility as a citizen he will try to control his symptoms. In a short time, the man worth while will be eager to help in the struggle. The physician must always sympathize with the patient as an individual but must never relax medical discipline. Many case histories are given to illustrate the course of the anxiety states.

Conversion hysterias are more frequent than the pure anxiety states but they are much simpler in mechanism than the latter. They are defined as neuroses "in which there is an alteration or dissociation of consciousness regarding some physical function." Fatigue and anxiety are important factors in these cases but to a less degree than in pure anxiety states. The symptomatology is extremely varied and consists mostly of those conditions that would provide relief from active service. Mutism, aphonia and deafness are most frequent. Motor disturbances including monoplegias and paraplegias or paresis are next in importance. Tics, spasms, contractures, tremors are very common. Hyperesthesias may occur alone whereas paresthesia and anesthesia usually accompany hysterical symptoms. Blindness, amblyopia and disorders of smell and taste are rare. There is nearly always some weariness and a distinct aversion to

fighting. The wish for a "blighty one", or some form of physical injury or disease, is present in practically every case. Occasionally the aversion to fighting is the direct outcome of physical accident or disease that removes the patient from the trenches, creating a desire not to return. This attitude constitutes the background of hysteria. When organic and functional disturbances are combined diagnosis is difficult. The functional disturbances may overlap the other and the physician may believe the condition to be non-organic. In such cases a final diagnosis may be made only after treatment on purely functional lines has been successful and has reduced the disability to its organic distribution.

"Quite the most difficult problem, however, is to differentiate a conversion hysteria from malingering. As I have had little opportunity to see cases of malingering as they are presented at the front, I am unable to say much on this topic that is not second-hand. Some workers rely largely on the suggestibility of the hysterical patient as a diagnostic criterion. Occasionally one meets with a physician who goes so far as to state that no patient who is not hypnotizable has a true hysteria, and therefore must be malingering. As the individual capacity to hypnotize varies greatly from man to man this is probably a rather unsafe rule. Again, if one relies on the impression which the personality of the patient makes on the physician, error is apt to be frequent. The true malingerer is usually, if not always, a psychopath. Again it may require a rather exhaustive study to determine whether the symptoms are produced on the basis of a conscious or an unconscious wish, which is essentially the difference in etiology between malingering and hysteria. Probably the safer guide is the history of onset. One should inquire, therefore, as to the mental attitude of the patient before the symptoms began. In a true hysterical case an admission is apt to be made as to the breaking down of adaptation to warfare and the consequent wish to be rid of it all, particularly the wish for an incapacitating wound. The malingerer is not apt to reveal the history because the symptom represents this wish to him quite consciously. The hysteric, on the other hand, because there has been an unconscious motivation, does not see the connection between this previous desire to be incapacitated and the symptom his malady presents. He is, therefore, more apt to be frank in the matter. In another respect the history may be of importance, I imagine. In all the cases, which I have had an opportunity of examining, whose symptoms arose while in the trenches, there was a history either of concussion or of a definite precipitating cause, the immediate result of which was some disturbance of consciousness, no matter how slight. Frequently it amounted to no more than the patient's being dazed for a few minutes and finding himself with the hysterical symptom, when he became quite clear again. As the opinion of the physician on this matter when delivered to a court martial may mean life or death for the soldier, I would prefer to leave this last diagnostic criterion as a suggestion until such time as further experience may show whether the phenomenon in question is universal or not."

Naturally individuals with a psychoneurotic temperament are more apt to develop symptoms and, when these are removed, to develop new ones, than the more normal soldiers. However, symptoms may remain for a long time, even in the latter group, unless appropriate treatment is given.

Strict discipline has often been successful but there is always the danger that too much coercion may be regarded by the patient as unjust and therefore a firmer foundation for neurotic symptoms be laid. Treatment based on suggestion, including hypnotism augmented by electricity, has been more successful than disciplinary treatment but many objections may be made to this combined method. It is of doubtful value because it aims at the removal of symptoms rather than of causes. The patient, himself, cured in such a way, regards the treatment as a miracle and fears recurrence. The best method of treatment for the conversion hysterics is undoubtedly reeducation. The patient

should be told the nature of his symptoms and that he must help to regain the lost function. At this point suggestion may be of great value. It is also of importance that the physician establish a friendly relationship with the patient and encourage him to speak openly of his fears and troubles.

Many men are invalidated from the trenches with heart symptoms, who show no signs of valvular trouble. This has been called "soldier's heart." The symptoms are weakness, shortness of breath, palpitation and dizziness. Frequently there is a region of hyperalgesia over or near the heart. It is suggested by some physicians that this "disordered action of the heart" is a form of the war anxiety neurosis. Some internists state that fifty per cent of these cases are neurotics. Among cases that MacCurdy has examined he recognized two types that correspond roughly to the anxiety and conversion hysteria groups. The first group have a strong desire for death before the actual appearance of the symptoms. In the second group there is a desire for an incapacitating wound and the heart symptoms are looked upon as a disease and not worried about. On the whole the number of cases of purely neurotic heart conditions that develop at the front is insignificant when compared to the anxiety states and common conversion hysterias.

In conclusion, MacCurdy speaks of the prophylactic measures to be taken to prevent such great loss in the efficiency of the army as war neuroses have produced. Careful exclusion of the unfit at the time of enlistment is necessary, but many difficulties arise in connection with this method. Often the man best adapted to civil life is not capable of being the best soldier. On the other hand, there are men who have shown histories of previous breakdowns, yet who turned out to be fine soldiers. The only thing to be done is to exclude all those who show marked psychopathic tendencies and who, at the time of enlistment, are ill-adapted to civil life. It would be well if the physician could reexamine all the doubtful cases after a few months of training and, if they have improved, give them a chance at the front. Another point of importance in prophylaxis is that the soldier must frequently be relieved from duty and be given as many distractions as possible. MacCurdy says: "At the present time the line officers of the British Army are as acutely aware of the necessity for rest and distraction as are the physicians, and the reason for this is that they have discovered that, no matter how much men may be forced and no matter how willing they may be to continue in the trenches, they nevertheless become inefficient when subjected to more than a certain amount of fatigue. If at all feasible, a system of relief should be worked out in a conference between psychiatrists and the staff. If also practicable, a certain laxity in the arrangements should be left whereby psychiatrists might be allowed the privilege of removing certain men from the trenches earlier than they would their fellows. If possible, this would be of great military advantage, as the histories of many patients show that, when they have an opportunity to rest, they quickly recover from the premonitory symptoms of a war neurosis and return to fight again quite competently. Once the disease has progressed beyond a certain point, however, there seems to be no return except after a long period of treatment. . . . It goes without saying that all forms of comfort and distraction, particularly the presence of palatable food and drink, are of importance from a medical standpoint in the present war as they never have been before. Where every factor seems to operate in making it hard for the soldier to maintain his adaptation—his pleasure in the service—it is essential that his difficulties should be reduced to a minimum, and that, on the other hand, he should be furnished with every possible means for giving him that pleasure which would distract his mind from all that is unpleasant and horrible around him.

"Finally, when men are sent back to rest camps in order to recover from their fatigue it would be highly desirable that they should receive an examination before they return to active duty again. As has been shown in a number of

cases in this report, the prospect of returning to duty, when recovery has not been complete, is frequently the occasion for utter discouragement and consequent collapse. In a war that may last for years an extra week or even an extra month of absence from the trenches is less loss to the army than is that which is occasioned by the protracted convalescence which follows only a week, perhaps, of efficient service. Here again the problem is reduced to a question of adapting individual treatment to the military necessities that consider all men alike."

In the course of the article twenty-seven case histories are described in detail.

**Neymann, Clarence A. Some Experiences in the German Red Cross.
Mental hygiene 1: 392-96, July 1917**

After a five years' residence in Germany the writer had just finished his state examinations at Heidelberg and entered the department of hygiene to study serology when the war broke out. He was persuaded to join the German Red Cross, where he remained until the end of April 1915.

He states that during the early period of the war, in fact, until the battle of the Marne, not a single mental case was received at the hospital where he was stationed. This, he thinks, was probably due, partly to the attitude of the German army, buoyantly sure of speedy victory, and partly to the fact that, on account of this feeling, no provision had been made for specialized treatment of any kind, so that no attention was paid to soldiers who behaved in queer ways. When the fighting changed from open to trench warfare the whole situation was changed. Hardly a transport of sick and wounded arrived but contained its quota of mental cases. The psychiatric clinic was used only for patients with serious mental afflictions so psychoneurotics had to be treated at base hospitals. When the hospitals had no psychiatrist on their staff, these psychoneurotics were looked upon as nuisances, so were transferred to the evacuation hospitals, where they "stagnated" for a while, and were eventually returned to the front. There all their symptoms returned immediately and they were returned to the base hospitals. Sometimes single men made this circuit as many as three times. Finally the government took charge of the matter and assigned to each base hospital a psychiatrist or arranged for regular visits from one in the vicinity. These psychiatrists dealt also with cases of slackers. The government also issued a proclamation warning against returning psychoneurotic patients to the front, and recommending various duties for them in the rear or at home. This caused a great improvement in conditions.

One type of psychoneurosis was particularly frequent and noticeable. It was called *Granatfieber*, grenade fever. All suffering from it seemed poorly built physically and constitutionally weak. They complained of indigestion, backache, and headache, grew pale and trembled, and in some cases lost control of their legs and fell to the ground whenever grenades were mentioned or experiences on the firing line related.

Another class of cases consisted of individuals who had had very trying experiences which had led them to simulate some mental or physical disorder for which others had been sent to the rear. Sometimes this simulation was kept up for months. "It is hardly to be wondered at that a man who naturally has not much strength of character grows tired after months of trench life and quits, either by purposely exposing himself to the fire of the enemy, or by simulating some disorder. All such individuals were considered unfit for duty at the front."

A third type are those slightly deficient mentally. The troops from Bavaria are notably brave, yet among their wounded one finds many high-grade morons. These individuals have as a rule not proven bad soldiers.

"Of course there were all sorts of individual reactions. Those patients who had gone through depressions in previous years again became depressed. Hypo-

manic individuals became very wild and lost almost the last remnants of civilization. . . . After a rest in the hospital for a period of time they usually calmed down again and became manageable."

Salmon, Thomas W. Use of Institutions for the Insane as Military Hospitals. Mental hygiene 1: 354-63, July 1917

The British War Office asked the Board of Control in January 1915 to co-operate in an attempt to provide 50,000 beds for wounded soldiers. A plan was formulated whereby ninety-two county and borough asylums were divided into ten groups and one institution in each group vacated for military use. Major Salmon quotes in full "Circular A—Use of Asylums as Military Hospitals", describing a scheme prepared by the Board of Control for the general administration of vacated asylums and the details of reimbursement which the War Office undertook to make to receiving and vacated institutions of this kind. This is followed by "Circular B—Use of Asylums as Military Hospitals", giving in detail observations by the War Office supplementary to their general confirmation of the scheme described in Circular A. The first employment of this plan made about 12,000 beds available, and by July 1, 1917, 27,158 beds were ready for use by the War Office. Even when a military hospital was to be used for insane soldiers, the name was changed from "asylum" to "hospital" so that the patients should escape the "stigma" of having been treated in an institution for mental disease.

A list of these converted institutions follows. The total cost of turning over these hospitals was not ascertained. In the case of the Norfolk Asylum it amounted to \$90,000. The capacity of the institutions was almost invariably increased.

Major Salmon next describes the changes in personnel and administration necessitated by the new use to which the institutions were put. Most of the buildings were of the cottage or small detached building type.

This article is embodied as Appendix II in Major Salmon's report upon the "Care and Treatment of Mental Diseases and War Neuroses ("Shell Shock") in the British Army."

Yerkes, Robert M. Relation of Psychology to Military Activities. Mental hygiene 1: 371-76, July 1917

The article describes briefly a few of the many lines of service for national defense open to the psychologist. The writer says: "Since the psychologist deals especially with the conscious activity of men, he should be a master in the description and valuation of human nature and an expert in the measurement of significant aspects of human response. In this capacity, recruiting offers him an important special task; that namely, of classifying men according to their mental characteristics, and of indicating their degree of adequacy for military training or special tasks in the military organization. By means of especially developed and adapted methods of psychological examining, it should be possible to gain information concerning each individual upon which may be based important recommendations to medical or to line officers."

Major Yerkes believes that certain grades of mental defectives need not be excluded from military service, but that suitable places may be found for them in military as well as industrial organizations. Another point realized by psychologists is the unsuitability to military requirements of many of the current methods for psychological examination, and the necessity for preparing new and specially adapted methods. "In connection with the preliminary handling of recruits, it is the prospective function of the examining psychologist first, to aid in the elimination of those who cannot safely render service worth their hire; second, to indicate various degrees and kinds of special ability and to relate

them to the tasks of army and navy, so that each individual shall be placed in a position of maximum usefulness; and third, to detect those who, by reason of mental instability or psychopathic condition, demand the attention of the medical expert. Such individuals should be referred to the staff of the neuro-psychiatric hospital unit for special study."

In conclusion the writer outlines a few of the military applications of psychological measurements, such as in the study of gunnery, and the examination of aviation recruits.

Journal of Amer. med. assoc. 69: 1458, Oct. 27, 1917. The War and General Paralysis (Paris Letter, Sept. 27, 1917)

The three Paris societies which are devoted to the study of mental diseases, the Société clinique de médecine mentale, the Société medico-psychologique and the Société de psychiatrie, recently held two joint meetings to discuss two important questions in military mental medicine; the discharge of men with general paralysis; and shell shock with its special etiology, evolution and sequels. A whole session was devoted to each of these questions in turn, with M. Justin Godart, undersecretary of state for the military medical service, in the chair at one meeting, and Dr. Simonin, medical inspector, presiding at the second meeting.

The discussion on the discharge of soldiers with general paralysis was brought about by the extremely severe rule voted by the Société de neurologie in December, 1916, on this subject, and by the too literal application of this rule by the medical men entrusted with the task of passing on the candidates for discharge from the army. The society had officially declared that every soldier with general paralysis should be granted discharge no. 2, except when he had been the victim of traumatism of the brain, in which case discharge no. 1 should be granted with an incapacity rate of from 10 to 30 per cent.

Dr. Pactet, in the leading address, demonstrated that a doctrinal question was responsible for the vote of the Société de neurologie, namely, the belief that general paralysis is exclusively syphilitic in its origin. But to be syphilitic is not enough to bring on general paralysis. Can any one affirm that the fatigues, the emotions, the dangers of the war do not play a part in localizing, aggravating and accelerating the production of the meningo-encephalitis? Instead of regarding *en bloc* all the cases of general paralysis, each should be given a separate examination, and in each individual case the effort should be made to estimate the part for which the circumstances of war are responsible, just as is being done for the tuberculous. The military authorities must be asked for the data as to the services imposed on the patient, and if the general paralysis seems to have been influenced by them, then grant discharge no. 1, with a pretty high rate of incapacity. Dr. Lépine, professor of nervous and mental diseases at Lyons, declared his views as entirely in accordance with those of Dr. Pactet. Dr. Dupré, agrégé professor at Paris and hospital physician, insisted on the exclusively syphilitic origin of general paralysis, and demanded that discharge no. 1 should be reserved for cases in which some grave war mishap could be invoked.

Dr. Marie, physician-in-chief to the public *Asiles* of the Seine department, and Lortat-Jacob, Paris hospital physician, gave a description of the general paralysis of wartime as running a much shorter course, with no intermission, with repeated sudden attacks, and with an early fatal outcome, skipping the stage of helpless dementia. Dr. Vallon, physician-in-chief of the Asile Sainte Anne, reiterated that the interests of the patients must not be sacrificed to too absolute theories—"fragile, like all theories." In the question of discharge from the military service, as in all medicolegal problems, each case must be studied separately, and the men on active service should not be treated any less favorably than workmen becoming paralyzed after an industrial accident.

Dr. Rubinovitch, physician-in-chief of the Bicêtre and Salpêtrière hospitals, expatiated on the lessons to be learned from the Russo-Japanese War, which led to recrudescence of cases of parietic dementia in the army. Dr. Colin, physician-in-chief of the insane asylum at Villejuif, presented an array of exact data regarding the cases of general paralysis in soldiers that he has had in his charge. He remarked further that wounds of the brain are spoken of always as authorizing discharge no. 1, but in this connection it must be borne in mind that general paralysis has never been observed in men wounded in the brain. The physicians on the military discharge commissions interpret in the narrowest sense the term *traumatisme encéphalique*. The restrictions in question will not be applicable to more than a small proportion of the patients—not over 15 per cent—the majority of cases being among the territorials, the noncombatants. He then specified some cases in which the routine application of discharge no. 2 would constitute a revolting injustice.

The following rule was finally definitely adopted by a unanimous vote. For men with general paralysis, accord discharge no. 2, except in special cases in which a careful inquiry would demonstrate in times of peace, and more especially in time of war, the aggravating influence of military service. The rate of disability should then be from 60 to 80 per cent.

Mayer, Alfred G. On the Non-Existence of Nervous Shell Shock in Fishes and Marine Invertebrates. Proc. U. S. National acad. sciences. 3: 597, Oct. 1917

Mayer's experiments at Tortugas, Florida, during the summer of 1917, indicate that the nervous system of fishes and invertebrates are remarkably resistant to the injurious effects of sudden explosive shocks transmitted through the water. Many experiments were made on the *Scyphomedusa Cassiopea Xamachana*. The medusae were paralysed by removing their marginal sense organs, and then a ring-shaped strip of sub-umbrella tissue was set into pulsation by an induction shock, thus producing a single neurogenic contraction which travels through the circuit-shaped strip of tissue at a uniform rate of speed, provided that temperature, salinity, and other factors remain unchanged. It is thus possible to ascertain accurately not only the rate of nerve conduction, but also the peculiar individual characteristics of the wave in each pulsating ring. These rings were placed in a light silken bag immersed about ten feet below the surface of the sea; and then half a stick of dynamite was exploded within three feet of them. This, however, produced no effect either upon their rates or the characters of their pulsation waves, although fishes possessing swim-bladders were killed within ten feet, and injured so that they turned ventral side uppermost within twenty feet of the exploding dynamite. When the pulsating rings were placed in glass jars or tin cans, partially filled with air, the containers were crushed or shattered by the explosion, and much mechanical injury suffered by the medusa rings, which, however, could at once be restored to normal pulsation by an induction shock if their pulsations had ceased. It was also observed that the lacerated area regenerated at a normal rate. Experiments proved that fishes with swim-bladders are more sensitive to explosive shocks than those without swim-bladders; thus a half stick of dynamite exploded within 3 feet of a small shark, which has no swim-bladder, produced no apparent injury: this applied also in a lesser degree to such teleosts as lack swim-bladders. Dr. Ball dissected some of the swim-bladder fishes killed by the explosion; he found that the swim-bladder had burst, and the tissues were crushed in around it, the vertebral column being often broken. It seems, then, that in the lower forms the injurious effects of dynamite explosions, when present, are due to mechanical laceration of tissues, and especially the crushing inward of air-filled cavities. "It seems possible, therefore, that the cavities of the middle ear and

Eustachian tubes may be a source of danger to men standing near exploding shells." The writer thinks that his experiments with the pulsating rings of *Cassiopea* negative the suggested hypothesis that the sudden reduction in atmospheric pressure close to an exploding shell might set free dissolved gases in the blood and elsewhere, thus vacuolating the tissues and producing pressure and other effects upon the nerves; for no injurious effects other than those of simple asphyxiation were produced by a sudden exhaustion of the air surrounding the animals; and recovery, when they were placed in normal sea water, was almost immediate. He holds that these results are in accord with the conclusions of Grasset, Eder, Babinski and Froment, and others, that war shock is predominantly a psychic phenomenon, and being hysteria it can be cured by hypnotic suggestion.—L. J. Kidd, *Rev. of neurology and psychiatry* 15: 385-87, Aug.-Sept. 1917.

Salmon, Thomas W. Care and Treatment of Mental Diseases and War Neuroses ("Shell Shock") in the British Army. Mental hygiene 1: 509-47, Oct. 1917

The article consists of sections of Major Salmon's report on his recent visit to England, together with an appendix entitled "Facilities Needed for Efficient Treatment of Mental Diseases in a Modern Public Institution." For abstract of the full report see p. 92-96,

Hammond, Graeme M. Neurological and Mental Examination of State Troops of the National Guard. Address at meeting of the New York Neurological Society, Nov. 13, 1917

Major Graeme M. Hammond, M.D., M.R.C., gave a general review of the work he had been doing in examination of the troops of the National Guard in this city and at the camps. When he received orders in August from the Surgeon General to examine all the militia in the vicinity of New York City, he was at first unprepared to act, for he realized his own efforts could be so small in such a tremendous task. So he enlisted the interest and assistance of twelve able neurologists and psychiatrists who agreed to help him in the work and they formed themselves into an examining board.

The troops were scattered throughout the armories here and in camps in the Bronx and Van Cortlandt Park, but the work was started, beginning with one regiment. The army surgeons with the troops could give little information as to the mental soundness of the men, though they knew all about their physical conditions, but it was soon discovered that the non-commissioned officers could give a certain amount of such information, so these men, usually sergeants, were asked to make lists of the men whom they believed would not make good soldiers. That helped a great deal. Soon experience showed that many of the candidates could be passed at a glance on the appearance they presented, but others were given a more careful examination. The intention was to dispose of those who would not make good soldiers, who would not obey orders, or who could not understand them, those with no idea of discipline, those with organic disease of the nervous system, and the mentally unstable cases. Certain regiments were found to have higher types of men than others; very few were rejected from some regiments, but in one, from a distant part of the country, sixty-three per cent were rejected. After the Rainbow Division left, nearly 4,000 men had been through this examination.

At the camps the work was not easy, for large numbers had to be examined in a day, though some of these men were of an exceedingly high class and one had no difficulty in deciding that they were all right. But some were delinquents, though not mental defectives; others were manic depressives; there were

cases of dementia precox, epilepsy, and migraine, a few spinal cases, some of progressive muscular atrophy, though only one of cerebrospinal syphilis. No cases of tabes were seen. In some regiments there were many cases of goitre, a few of them exophthalmic, but unless they presented constitutional symptoms they had not been rejected; only when they showed evidence of tremor or of physical weakness so that they could not keep up with their work, were they considered unfit for duty.

One could hardly realize the amount of work this meant. The large number of men that had to be rejected proved a revelation. The army was full of incompetents who should have been stopped before they entered if the men on the exemption boards had done their duty, and it was deeply to be regretted that such a state of affairs should exist in this age and at this crisis. In the officers' training camp there were many whom it was found necessary to reject, men of the highest type, college men, and those who had held important positions, men of affairs. Those from the West compared very favorably with those from New York State, but in one regiment of men from a large city, many of the men had been in jail or a reformatory. The cases of migraine were of interest, mostly all giving a significant family history, usually the mother having suffered from it. Those who had slight attacks were passed, but those in whom the attacks lasted two or three days accompanied by severe pain and prostration, were rejected. Epileptics were not rejected unless they were seen during a seizure by a member of the Board, or by some one on whose testimony the Board could rely. A proportion of those would probably be heard from later. There was no doubt that a certain number of cases of all kinds that should have been rejected got through. In recognition of the Surgeon General's opinion that such men were not desirable, they had been careful in going over the neurasthenics and those with hysteria.

As far as the militia, the volunteer, regiments were concerned, they would undoubtedly prove a high type of soldier, but in regard to the National Army as a whole one could not be so enthusiastic. In one day seventeen men were dismissed from the service who had been under observation in the psychiatric hospital at one camp for a number of days. This was where the heroin cases were seen, some of them coming in voluntarily because they could not obtain the drug and others sent in by the commander. It was a matter of astonishment how frequently these men were supplied with this substance by visiting friends and relatives. Of the seventeen rejected men referred to, four were cases of dementia precox; four, epileptics; eight, heroin habitués; and one was undiagnosed.—N. Y. med. j. 107: 764-65, April 20, 1918.

Hunt, J. Ramsay. Exhaustion Pseudo-paresis; Address at a Meeting of the New York Neurological Society, Nov. 13, 1917

Dr. J. Ramsay Hunt presented a résumé of the results of special neuropsychiatric examinations in one of the large training camps for officers, composed of 1,500 men, and out of this number eleven cases were found presenting slight but definite symptoms of incipient paresis, preparesis, or early cerebral syphilis, a diagnosis confirmed by examinations of the blood and cerebrospinal fluid. Generally speaking the clinical symptoms were not very marked, consisting of pupillary changes, tremors of the face and hands, and slight disturbances of articulation on repeating test phrases. The usual cerebral symptoms or evidence of mental deterioration were so slight as to be practically negligible from the diagnostic standpoint, and in studying this very important group of cases the examiner was almost wholly dependent upon those silent but well established somatic symptoms of early paresis so characteristic to the trained observer; i. e., tremors, absent or feeble reaction to light and disorders of articulation of the parietic type.

As directly bearing on this subject, emphasis was laid upon the occurrence of another group of cases which had come under observation, the formal recognition of which was of importance because of the close similarity of the somatic symptoms to those of early paresis. This condition was apparently dependent upon an exhaustion of the cerebrospinal centres as a result of the unusual strain, both mental and physical, to which men undergoing the intensive course of military training were subjected. Four cases were reported in detail, presenting slight mental and cerebral disturbances, inequality of the pupils, with extremely feeble and sluggish reactions to light, coarse tremors of the hands, face and tongue and a dysarthric disturbance of speech on repeating test phrases very similar to that observed in the early stage of paresis. The pupils in all of the cases were unequal and showed a very feeble and sluggish reaction to light. In some of the cases there was so little response as to suggest a true loss of the light-reaction. The reaction on accommodation was preserved and the sympathetic response was also elicitable; the impression of an Argyll-Robertson pupil was, therefore, produced. The tremors of the face and tongue were coarse, with associated movements of the facial muscles on speaking. In addition, fairly coarse tremors of the hands and fingers were present and handwriting was tremulous. Syllable stuttering and the dysarthric speech of paresis were closely simulated.

Clinically, the diagnosis of incipient paresis seemed assured, but the serological examinations of the blood and spinal fluid were entirely negative. There was no increase of globulin or cells, and the colloidal gold reaction was negative. Furthermore, all the symptoms cleared up after a week or ten days' rest. In the absence, therefore, of positive findings in the blood and spinal fluid and the rapid improvement under rest, it seemed clear that the condition had been produced by an acute exhaustion of the central nervous system, with somatic symptoms strongly suggestive of early paresis.

As there was association between fatigue and the production of certain toxins which act upon the central nervous system as well as upon the muscles, in addition to the theory of nerve exhaustion, a lowgrade intoxication of the nerve centres had to be considered as a possible explanation. Among these toxic products of fatigue might be mentioned such substances as carbon dioxide, paralactic acid and monopotassium phosphate. . . . Some observers, notably Weichardt, had also long maintained that a specific fatigue intoxication existed, and was the essential etiological factor in the production of its characteristic manifestations.

Among the recognized mental symptoms of fatigue was a diminished power of attention, a lack of ability to concentrate, a slow reaction to mental stimuli, slowness in reasoning, as well as errors and slowness in mathematical calculation. If these symptoms were present in any marked degree and associated with the somatic symptoms mentioned above, they might well lead to error.

It is well known that fatigue is a frequent cause of tremor, and tremor after prolonged muscular activity is well recognized. The unusual degree, wide distribution and persistence of it in these fatigue cases were probably dependent upon the prolonged mental and physical strain and a special disposition to exhaustibility of the nerve centres.

As the mechanism of speech requires a delicate coordination of the higher cortical centres and muscular activity, it is perhaps not surprising that the disturbance of articulation noted in this group of cases should have occurred as a manifestation of extreme fatigue.

More difficult of explanation were the pupillary phenomena. It was well known that during the convulsive crises of epilepsy, and even hysteria, the pupils dilated and were rigid to light. Also, in simple exhaustion, the pupils were dilated and might be sluggish to light, with reservation of the reaction on accommodation. Perhaps the suspicious pupillary phenomena observed in these

exhaustion cases were of a somewhat similar nature, possibly dependent upon a disturbance of the sympathetic innervation of the pupil by fatigue or the toxins of fatigue. The pupils, while definitely unequal, with sluggish or absent reaction to light, presented no irregularities of contour, and this might constitute an important point of difference from the true syphilitic pupil which not infrequently displays marginal irregularities.

Dr. Hunt stated that he had not observed a similar condition in civil practice, which he ascribed to the unusual etiological conditions furnished by life in a training camp, and thought that the formal recognition of a *fatigue syndrome simulating early paresis* was worthy of earnest consideration. Furthermore, it was not unlikely that under still greater conditions of stress and strain this group might be the forerunner of more severe types of the exhaustion neuroses and neuropsychoses.—J. A. M. A. 70: 11-14, Jan. 5, 1918.

Salmon, Thomas W. Neurology and Psychiatry in the Army; Address at a meeting of the New York Neurological Society, Nov. 13, 1917

The address consisted chiefly of an account of the work in neurology and psychiatry already done in armies, and that which is being planned for the future. Many illustrations from the present war were given, showing the great significance of the problem of mental disease in military services. This country has profited by the experience of foreign armies in their attempts to solve the problem, for Surgeon General Gorgas made appropriations, even before the participation of the United States in the war, for the organization of neurological and psychiatric work in the Army upon a scale never before attempted. The Medical Reserve Corps, assisted by the War Work Committees of the National Committee for Mental Hygiene, of the American Medico-Psychological Association, and of the American Neurological Society, has commissioned 222 specialists in nervous and mental diseases to serve in the various camps in this country. Medical officers stationed at all officers' training camps conduct examinations of all candidates for commissions, with the result that many cases of organic nervous disease and some of psychoses and psychoneuroses have been rejected for disability. At each of the National Army cantonment camps is a neuropsychiatric board composed of three medical officers to examine cases referred to them by line and medical officers. In addition to these tests, a system for the examination of civilians in training has been inaugurated. This will weed out cases of unfitness before the forces are sent abroad, consequently decreasing greatly the number of those who would otherwise have to be returned to this country for treatment and disability. Up to the time when the address was delivered, several thousand men had already been rejected for various forms of mental and nervous unfitness, including mental defect, epilepsy, and almost all the psychoses. Seven American specialists are in England studying shell shock and methods for its care and treatment. The expeditionary forces in France have several others, one is attached to each base hospital abroad, one to each military prison, and one will be in each delinquency battalion, when such are formed.

Special intensive courses in neurology and psychiatry have been taken by several of these medical officers who felt that they needed special training or review of previous theoretical or laboratory work.

A brief description was given of the arrangements to be made abroad for the care of functional nervous cases from the expeditionary forces, and of those likely to be returned to the United States. Major Salmon announced, with the Surgeon General's permission, the opening in the near future of the first military psychiatric hospital in this country at Fort Porter, Buffalo. Others will be opened according to future need. A special neuropsychiatric unit, with a personnel of 216 trained physicians, nurses and special workers with actual experience in the care and treatment of nervous and mental cases, has been organized and will sail soon to take charge of a special neuropsychiatric base hospital abroad.

In conclusion Major Salmon spoke of the great influence that this work in military neuropsychiatry is bound to exert upon the application of neurology and psychiatry to civil problems and conditions after the war.

Anderson, John E. Psychological Tests in the National Army; Address at a Meeting of the Boston Society of Psychiatry and Neurology, Dec. 20, 1917

As Lieutenant William S. Foster, of Camp Devens, was unable to present a communication on the above topic, Lieutenant John E. Anderson discussed the examinations of the men at that camp. He said that a psychological examination had been made on practically every man in camp. The object of the examination is two-fold: to classify the mental ability of the men as an aid to their superiors in the selection of men for appointment as non-commissioned officers and for special duties, and secondly to weed out the unfit.

The men appear for the examination in groups of from one hundred to two hundred. First a very brief literacy examination is given which separates the illiterate from the literate. The latter then take a forty-five minute test covering quite varied abilities. The illiterates are given a "skill examination" consisting of the putting together of disassembled implements, such as locks, wrenches, electric bells, and so on. Those doing poorly in either examination are recalled and examined individually. If their performance is poor enough to warrant it they are sent to the psychiatrist who examines them with a view to rejection.

On the basis of these examinations the men are grouped in five classes: the very superior, superior, average, inferior, and very inferior. The company commander receives a report on each man, to be used in any way he sees fit. He is advised that these tests get at the "intelligence factor" only, and that the final selection of a man depends also upon such qualities as resourcefulness, leadership, and courage, which cannot be measured by tests. But the tests do bring a number of the men to the fore who otherwise would pass unnoticed and so serve to give the officer the material from which to select. This has been particularly noticeable in the cases of quiet but efficient men. Each company commander submits a return report to the psychologists in which he comments on the usefulness of the test ratings and any irregularities he has noticed. These reports have been very encouraging.

Although the personnel work (*i. e.*, the ratings submitted to the officers) is of primary importance, the elimination of the mentally unfit plays a large part. The psychologists and the psychiatrists cooperate in this work.

Asked about the details of the examinations, Lieutenant Anderson said that about 150 men could be examined an hour in the groups. The examination including the seating and arrangement of the men takes an hour. The individual examination, given to the culls from the entire system of examination, takes between forty minutes and an hour. The scoring of the group examinations, which is done by clerks with stencils upon which the correct answers are designated, takes very little time. The tests include such things as the carrying out of simple commands, memory for digits, the rearrangement of sentences, arithmetic problems, etc., all aimed to give ratings on general intelligence.

Asked about the cost of the examinations, Lieutenant Anderson said that it was very small as compared with that of other examinations in the army. He said that a considerable number of the illiterates had been found. Many of these are foreigners who have difficulty with the English language. Asked about the possibility of coaching before the examinations, he said that five different forms are in use, and that the examination is such that even a repetition of it gives only a slightly higher rating.—*J. nerv. and ment. dis.* 47: 223-24, March 1918.

Salmon, Thomas W. War Neuroses ("Shell Shock"); Lectures, Illustrated with Motion Picture Films, Prepared by Direction of the Surgeon General for Use in the Medical Officers' Training Camps. N. Y. Natl. comm. mental hygiene, 1917. Also in Mil. surg. 41: 674-93, Dec. 1917

Major Salmon treats his subject under two main divisions: "Nature and importance of the neuroses in war"; and "Diagnosis and treatment."

"Military life," he says, "has well been called 'the touchstone of insanity'. Not only in actual war, but even in peaceful mobilizations, such as that of our own Army along the Mexican border last year, there is a higher rate of mental disease among soldiers than in civil life. The discharge rate for mental diseases in the United States Army in 1916 was three times the admission rate for these disorders in the adult male population of the state of New York, one-tenth of all discharges for disability being for mental diseases, mental deficiency, epilepsy, and the neuroses. When it is remembered that the later decades of life, in which mental diseases dependent upon organic changes in the brain are so prevalent, are not represented in military forces, it is seen that the rate in the army is greater even than is indicated by such statistics."

After a brief discussion of the peculiarly difficult problems in adaptation created by military life for neurotic or psychopathic individuals, the extraordinary prevalence of the neuroses, fairly common in civil life, but a major medical problem in war time, is commented upon. Although no new symptoms or diseases are exhibited by cases of war neuroses, or shell shock, the magnitude of the problem makes it necessary that every medical officer should become familiar with it from the point of view of diagnosis, management and military jurisprudence.

Since the term "shell shock" has unfortunately been applied rather loosely to practically any nervous condition in soldiers exposed to shell-fire, which is inexplicable by a physical injury, and has even been used to include types of mental disease, a division of these conditions into some etiological and clinical groups will help to clarify the subject. Cases in which the soldiers have been actually exposed to the effects of high explosives include:

1. Cases of death without external signs of injury. Apparently death in such cases is sometimes due to damage to the central nervous system.
2. Cases exhibiting severe neurological symptoms in characteristic syndromes suggesting the operation of mechanical factors, such as concussion, aerial compression, the rapid decompression following it, "gassing", etc.
3. Cases in which the symptoms are those of neuroses familiar in civil practice, but distinctly colored by war experience. Much controversy exists as to the mechanism of such cases of shell shock.
4. Cases in which even the slightest injury to the nervous system from the explosion is improbable and in which the war experience has not varied at all from that of hundreds of comrades who have developed no symptoms.

There is still another group of cases in which soldiers who have not been exposed at all to battle conditions develop symptoms almost identical with those in men who are supposed to be suffering from the effects of actual shell-fire. Farrar calls these "anticipatory" neuroses.

"It is the opinion of most psychiatrists and neurologists who have been studying and treating 'shell shock' in the British Army, that the last two groups named are by far the largest and most important and that, whatever the unknown physiological basis, psychological factors are too obvious and too important in these cases to be ignored." In support of this view Major Salmon states a series of significant facts based upon observations.

"The psychological basis of the war neuroses (like that of the neuroses in civil life) is an elaboration, with endless variations of one central theme—*escape from an intolerable situation in real life to one made tolerable by the neuroses*. Either a

function is lost, the absence of which releases the patient from the intolerable situation, or one is lost which interferes with successful adaptation. The function may be mental or physical." Major Salmon outlines several cases from civil life illustrating the mechanism of these neuroses. Needless to say, the same conflict, in an exaggerated form, takes place in modern warfare. Among avenues of escape from intolerable situations are wounds, capture and malingering. The last is "a military crime that is not at the disposal of men governed by the higher ethical considerations."

"One of the most important features of the wide employment of the term 'shell shock' to denote the neuroses in war is its implication of a cause acting suddenly." Major Salmon then shows how "shell shock" is really the culmination of a train of symptoms, arising often from various preexisting conditions, such as strain and exhaustion, personal misfortunes, or a neurotic or psychopathic temperament.

These constitutionally predisposed individuals naturally contribute most heavily to the neuroses among soldiers, but men with apparently sound constitutions and no previous mental or nervous breakdowns are also often stricken after exhausting or distressing war experiences. Thus in shell shock the situation, apparently a very simple one in which mechanical factors predominate, is often in reality exceedingly complex and closely involved with the life experience of the individual.

In discussing the symptomatology of war neuroses, Major Salmon includes neither cases of organic damage to nerve tissue nor those suffering from transitory nervous symptoms which are curable by a short rest. The distribution of the various types of war neuroses varies according to rank. Officers generally suffer from neurasthenia, excessive fatigue both of body and mind, irritability, anxiety, and fears not directly connected with war experiences. Less common are forms of hysterical paralysis or tremor. The most striking war neuroses are those presenting the classical symptoms of hysteria in a new and often dramatic setting. "No symptom familiar to the neurological clinic is lacking among the hundreds of cases of shell shock to be found in the military hospitals in France and England. . . . In those cases, which have as their starting-point a definite shell or mine explosion, there are often symptoms which suggest concussion. Unconsciousness, dizziness, deafness, motor incoördination, and such physical symptoms as amnesia, confusion and hallucinations of hearing make up the so-called concussion syndrome." Psychical symptoms are transitory delirium, amnesia, mental confusion, hallucinations and vivid "battle dreams". Among speech disorders are aphasia, stammering, mutism and aphonia. Sensory symptoms are anesthesia, pain and hyperesthesia. Blindness, night-blindness, deafness, hyperacusis and anosmia are frequently found, also disturbances of gait, contractures, and many forms of paralysis and tremor. Disturbances of involuntary functions include tachycardia, enuresis and diarrhoea.

The question of diagnosis is most important, not only in promoting the interest of the patients but also that of the military service. It is often very difficult to distinguish organic disease and also malingered symptoms from the somatic manifestations of hysteria. Major Salmon mentions a few of the more important features in differential diagnosis. "Hysterical speech disorders usually present few difficulties in diagnosis. Aphasias are always paradoxical and accompanied by other hysterical symptoms. Stammering comes on suddenly with no history of similar speech disturbance in youth. Aphonia may be shown to be functional by a careful laryngological examination. Visual symptoms do not correspond to any organic cerebral lesions and the eye is found to be normal except for contraction of the visual fields, especially the helicoid form so characteristic of hysteria. In the rare instances in which disturbances of taste are found there is a complete bi-lateral ageusia—a symptom unknown except in hysteria—or unilateral loss corresponding with skin anesthesia, a condition which does not occur in organic disease.

"Gait disturbances not accompanied by paralysis usually simulate abnormal locomotion from physical disease or injury. Thus the gait may resemble that of congenital dislocation of the hip-joint, ankylosis of the knee or ankle, or hip joint disease—all conditions which can very readily be excluded.

"Paralyses may resemble superficially any type seen in organic nervous lesions, but never accurately. Sometimes difficulties are presented, but usually a careful neurological examination will make the situation clear. While atrophy may exist in hysterical paralyses of long duration, such cases are unlikely to come to attention in military practice except in the examination of recruits, and the electrical reactions will present error. The reflexes, especially the plantar and bladder reflexes, are of the greatest value in determining the nature of a paralysis. The distribution of local paralysis seems never, even by accident, to correspond exactly with that due to lesions of nerve roots or peripheral nerves. The posture of the paralyzed limb is rarely similar to that in a paralysis due to an organic lesion. This is especially well shown in the gait in hysterical hemiplegia, the foot being dragged with the *inner* instead of the *outer* border of the sole scraping along the floor. The enormous predominance of left-sided symptoms in hysteria should be borne in mind.

"The anesthetics of hysteria usually present no serious difficulties in diagnosis. Although it is not possible to detect all of them by such a simple expedient as asking the patient to say 'yes' when he feels the pin and 'no' when he does not, the actual reactions elicited are often quite as paradoxical. It is helpful to remember that the patient with hysterical anesthesia never suffers from his disability. You will not find cuts or cigarette burns which have been received without knowing it, as in organic cases.

"In the examination of hysterics it must be remembered that pain, anesthesia and other sensory symptoms are true hallucinations. They are often as real to the patient as hallucinations of vision or hearing, but they are subject to as wide variation in intensity and frequency. Finally one should be mindful of the fact that rarely hysteria and organic disease may exist together.

"The sudden appearance of marked incapacity without signs of injury, in a group of men to whom invalidism means a sudden transition from extreme danger and hardship to safety and comfort, quite naturally leads to the suspicion of malingering. The general knowledge among troops of the more common symptoms of 'shell shock' and of the fact that thousands of their comrades suffering from it have been discharged from the army sometimes suggests its simulation to men who are planning an easy exit from military service by feigning disease. It is therefore of much military importance that medical officers be not deceived by such frauds. On the other hand, especially before the clinical characters and remarkable prevalence of war neuroses among soldiers had become familiar facts, not a few soldiers suffering from these disorders were executed by firing squads as malingerers. Instances are also known where hysterics have committed suicide after having been falsely accused of malingering. Mistakes of this kind are especially likely to occur when the patients have not been actually exposed to shell fire because the idea is firmly fixed in the minds of most line officers and some medical men that the war neuroses are always due to mechanical shock.

"The diagnosis between neuroses and malingering may sometimes be extremely difficult, but usually it is easy when the examiner is familiar with both conditions. The difficulties arise from the fact that in both a disease or a symptom is simulated. As Bonnal says, 'The hysteric is a malingerer who does not lie.' The cardinal point of difference is that the *malingeringer simulates a disease or a symptom which he has not in order to deceive others*. He does this consciously to attain, through fraud, a specific selfish end—usually safety in a hospital or discharge from the military service. He lies and *knows* that he lies. *The hysteric deceives himself by a mechanism of which he is unaware and which is beyond his*

power consciously to control. He is usually not aware of the precise purpose which his illness serves. This is shown by the fact that, in many cases, all that is necessary for recovery is to demonstrate clearly to the patient the mechanism by which his disability occurred and the end to which, unconsciously, it was directed.

"There are a number of distinctive points of difference between hysteria and malingering, two of which it may be interesting to mention.

"1. The malingerer, conscious of his fraudulent intent and fearful of its detection, dreads examinations. The hysteric invites them, as is well known to physicians in civil practice. When he has the opportunity, he makes the rounds of clinics and physicians, especially delighting in examinations by noted specialists.

"2. The hysteric, in addition to the symptoms of which he complains often presents objective symptoms of which he is unaware. The malingerer, unless of low intelligence, confines his complaints to the disease or symptom which he has decided to simulate.

"Malingering may follow or prolong a neurosis. This is not infrequently the case when mutism is succeeded by aphonia. In such cases the clinical picture presents changes very apparent to the experienced psychiatrist, but it must be remembered that malingerers, like criminals in civil life, are often very neuro-pathic individuals.

"The gravity of malingering as a military offense in an army in the field justifies the recommendation that no case in which the possibility of a neurosis or psychosis exists be finally dealt with until the subject is examined by a neurologist or psychiatrist. If neuropsychiatric wards are provided in base hospitals in France as well as in the United States, such an examination will be feasible in practically all cases without causing undue delay. The knowledge that malingerers are subjected to such expert examination always tends to discourage soldiers from this practice."

As to treatment, Major Salmon emphasizes the fact that therapy is essentially a psychological problem, the first step of which is a careful study of the individual case. The attitude of the medical officer is also of great importance. He must be immune to surprise or chagrin, firm in his control of the patient, yet have a sane and understanding sympathy. "The resources at the disposal of the physician in treating the war neuroses are varied. The patient must be re-educated in will, thought, feeling and function. Persuasion, a powerful resource, may be employed directly, backed by knowledge on the part of the patient as well as the physician of the mechanism of the particular disorder present. Indirectly, it must pervade the atmosphere of the special ward or hospital for 'shell shock.' Hypnotism is valuable as an adjunct to persuasion and as a means of convincing the patient that no organic disease or injury is responsible for his loss of function. Thus in mutism the patient speaks under hypnosis or through hypnotic suggestion and thereafter must admit the integrity of his organs of speech. The striking results of hypnotism in the removal of symptoms are somewhat offset by the fact that the most suggestible, who yield to it most readily, are particularly likely to be the constitutionally neurotic. In such cases we are using to bring about a cure, a mental mechanism similar to that which produced the disorder.

"Recovery within the sound of artillery, or at least 'somewhere in France,' is more important and durable than that which takes place in England. This is a very important fact and the brightest spot in the rather dismal picture presented by these disorders. . . . For severe cases and those which through mismanagement have developed the unfortunate secondary symptoms of 'shell shock' and in whom long-continued treatment is necessary, a rural place is best.

"Reeducation by physical means is a valuable adjunct to treatment in recent cases, but particularly in chronic cases who have been mismanaged and in those

who are recovering from long-continued paralyses, mutism and gait disorders. While drills and physical exercises have their specific uses, occupation is the best means. Non-productive occupations should be avoided."

Occupations may be divided into three classes: bed, indoor, and outdoor. Under class 1 may be included basket and net making, preparation of surgical dressings, and various minor finishing operations. "All occupations, especially those which are carried on by patients seriously incapacitated, should be regarded only as steps in a process of progressive education. Every effort must be made to prevent skill acquired in them from being considered as a substitute for full functional activity. Herein is an important difference between the re-education of neurotic and orthopedic cases." Indoor occupations include carpentry, wood carving, metal and cement work, printing, bookbinding, cigarette making, and electric wiring. Outdoor work may consist of farming, gardening and building operations, wood sawing and chopping, and the care of small stock not requiring much land.

"Before even the simplest occupation can be engaged in it is sometimes necessary to reëducate paraplegics and ataxics in walking and coordination. Just as soon as possible exercises should be replaced by productive occupations which will accomplish the same results more quickly and more satisfactorily. This is true of gymnastic exercises which in the early steps of treatment constitute a valuable resource but which should be replaced by specially devised useful tasks. Swimming has an unique place in the treatment of gait disturbances, paralysis and tics. One of the first pieces of construction undertaken by the outdoor patients at a reconstruction center should be that of building a large concrete swimming tank.

"Hydrotherapy and electrotherapy have a distinct value when they are applied with absolute sincerity and full realization on the part of the patient and medical officer of the role that they actually play in the treatment of functional nervous diseases.

"The experience of English hospitals has demonstrated the great danger of aimless lounging, too many entertainments and relaxing recreations, such as frequent motor rides, etc. It must be remembered that 'shell shock' cases suffer from a disorder of will as well as function and it is impossible to effect a cure if attention is directed to one at the expense of the other. As Dr. H. Crichton Miller has put it, 'shell shock' produces a condition which is essentially childish and infantile in its nature. Rest in bed and simple encouragement is not enough to educate a child. Progressive daily achievement is the only way whereby manhood and self-respect can be regained."

Salmon, Thomas W. Care and Treatment of Mental Diseases and War Neuroses ("Shell Shock") in the British Army. N. Y., Natl. comm. mental hygiene, 1917. 102 p. Bibliography

Major Salmon introduces his report as follows:

"No medico-military problems of the war are more striking than those growing out of the extraordinary incidence of mental and functional nervous diseases ('shell shock'). Together these disorders are responsible for not less than one seventh of all discharges for disability from the British Army, or one third if discharges for wounds are excluded. A medical service newly confronted like ours with the task of caring for the sick and wounded of a large army cannot ignore such important causes of invalidism. By their very nature, moreover, these diseases endanger the morale and discipline of troops in a special way and require attention for purely military reasons. In order that as many men as possible may be returned to the colors or sent into civil life free from disabilities which will incapacitate them for work and self-support, it is highly desirable to make use of all available information as to the nature of these diseases among

soldiers in the armies of our allies and as to their treatment at the front, at the bases and at the centers established in home territory for their reconstruction. England has had three years' experience in dealing with the medical problems of war. During that time opinion has matured as to the nature, causes and treatment of the psychoses and neuroses which prevail so extensively among troops. A sufficient number of different methods of military management have been tried to make it possible to judge of their relative merits. My visit to England was for the purpose of observing these matters at first hand so that I might contribute information which might aid in formulating plans for dealing with mental and nervous diseases among our own forces when they are exposed to the terrific stress of modern war."

The report does not include any account of the treatment of organic nervous diseases nor of injuries to the central or peripheral nervous systems, nor did Major Salmon have time for any original clinical observations.

As to prevalence of mental diseases in military services the following quotation will be of interest:

"On March 31, 1917, about 1.1% of all patients in the military hospitals of Great Britain were officially diagnosed as insane. The percentage among expeditionary patients was 1.3, and among non-expeditionary patients 1.1. The enormous prevalence of wounds in patients from the expeditionary troops reduces the percentage of all other conditions, so the excess of mental cases among expeditionary cases is much greater than is apparent. Among non-wounded expeditionary patients the percentage was about three times that among the non-expeditionary cases. The rate among officers was only one third that among men in expeditionary patients and about the same in non-expeditionary patients. This has an important bearing upon the fact that the rate for the war neuroses ('shell shock') is four times as high among officers as among men. . . . It can be estimated, from all the data available that the annual admission rate to the British military hospitals for the insane is about 2 per 1,000 among the non-expeditionary troops and about 4 per 1,000 among expeditionary troops. The rate in the adult male civil population of Great Britain is about 1 per 1,000."

Several special war hospitals for the treatment of mental cases have been established in the United Kingdom through the taking-over for this use of county and borough asylums. This subject is discussed in Appendix II of Major Salmon's report. There were at the time of the completion of the report about 3,400 beds in strictly military hospitals available in Great Britain and Ireland for insane soldiers. "No attempt has been made to care for the insane in France, the policy of the War Office being to send all cases to the clearing hospital at Netley and then to special institutions as soon as possible. There are available in France only 125 beds, all for the temporary detention of mental cases."

During 1916 the number of mental cases passing through the 3,400 beds available for their care in Great Britain and Ireland was about 6,000.

No new clinical types of mental disease have been observed in armies. "There are no 'war psychoses'. The clinical pictures familiar in civil life are seen, colored often by the experience at the front, but for the most part unchanged in their symptomatology, outcome and course. The distribution of the various psychoses has been strikingly different from that in civil life, but this has been chiefly due to the different age periods represented in patients from the army. The absence of the organic mental diseases of the later decades of life, which play so large a part in civil statistics, has resulted in abnormally high percentages for other psychoses."

About 18% of the patients admitted to military hospitals for mental diseases have been found mentally defective. Major Salmon believes, in spite of arguments advanced to the contrary, that experience in the present war has proved that mental defectives should be debarred from military service except when the last available man-power must be utilized. Under such circumstances, they

should be kept at work at the rear under the supervision of non-commissioned officers specially trained in their management.

Cases of general paresis amounted to about 2% of the mental patients received in special hospitals. Experience in the British Army and Navy has shown that no person with the slightest indication of syphilis of the central nervous system should be enlisted or commissioned for any military duty.

Manic-depressive insanity is present in about 20% of all admissions to military hospitals for mental disease.

Alcoholic psychoses are now found almost entirely in patients on leave from the front. Delusional types appear in older men stationed at bases where opportunity is afforded to continue life-long habits of drinking to excess. Attempted suicides are very frequent among alcoholics in military service. Alcoholics should be debarred from the service.

Patients suffering from dementia precox constitute 14% of admissions. Most cases appeared shortly after enlistment and the individuals were probably psychopathic.

Many cases of epilepsy observed had had the disease before enlistment.

A very large number of cases of constitutional psychopathic states have been received in the special military hospitals for mental diseases.

As to prognosis, Major Salmon says: "There are no statistics available to show the outcome in the mental diseases treated in military hospitals. Discharge is much more likely to be regulated by administrative considerations than by clinical ones. Acute conditions seem to recover very quickly. Few return 'to first line duty'. The statistics indicate a much larger proportion than is actually the case. The number of those who go back to the colors is made up for the most part of patients who have recovered from delirium tremens and those with war neuroses who have been incorrectly admitted to institutions for the insane. Infective-exhaustive psychoses are much more likely to be regarded as 'shell shock' than as mental disorders. The hospitals for mental diseases fail, therefore, to get these very recoverable cases and the recovery rate in such institutions suffers correspondingly.

"For the United States, Great Britain's experience carries important lessons. More important than all others is the result of careless recruiting. The problem of dealing with mental diseases in the army—difficult at best—has been made still more so by accepting large numbers of recruits, who had been in institutions for the insane or were of demonstrably psychopathic make-up. The next most important lesson is that of preparing, in advance of an urgent need, a comprehensive plan for establishing special military hospitals and using existing civil facilities for treating mental disease in a manner that will serve the army effectively and at the same time safeguard the interests of the soldiers, of the government and of the community."

Section II of Major Salmon's report is devoted to general observations upon the nature of war neuroses or shell shock. This section of the report is virtually a more detailed discussion of the same subject matter as the pamphlet by Dr. Salmon entitled "War Neuroses (Shell Shock)" and abstracted on p. 88-92, so the abstract will not be repeated here.

Section III is entitled "Recommendations for the United States Army." Major Salmon says: "It seems desirable to consider separately in these recommendations, expeditionary and non-expeditionary forces. It is necessary to deal separately with mental and nervous diseases in the United States but not in France. While facilities existing at home can be utilized for the treatment of mental diseases, it is necessary to create new ones for the treatment of the war neuroses. In France, where all facilities for treatment must be created by the medical department, the distinction between psychoses and neuroses need not be drawn so closely. Consequently, simpler and more effective methods of administrative management can be devised".

One important feature is to have at our disposal a personnel of specially trained medical officers, nurses and civilian assistants and an efficient mechanism for treating mental and nervous cases in France, evacuating them for continued treatment, when necessary, to the United States.

Most important is the rigid exclusion of insane, mentally defective, psychopathic and neuropathic men from expeditionary forces.

Major Salmon next summarizes his recommendations as applied to the expeditionary forces as follows:

"Overseas"

1. *Base Section of Lines of Communication*

- (a) A Special Base Hospital of 500 beds for neuropsychiatric cases, located at the base upon which each army (of 500,000-600,000) rests. These special base hospitals to be used for cases likely to recover and return to active duty within six months. Other cases to be cared for while waiting to be evacuated to the United States.
- (b) One or more Special Convalescent Camps in connection with (and conducted as part of) each Special Base Hospital.

2. *Advanced Section of Lines of Communication*

- (a) Special Neuropsychiatric Wards of 30 beds in charge of three psychiatrists and neurologists for each base hospital having an active service. These wards to be used for observation (including medico-legal cases) and for emergency treatment of mental and nervous cases.
- (b) Detail of a psychiatrist or neurologist attached to the neuropsychiatric wards of base hospitals, to evacuation hospitals or stations further advanced as opportunities permit.

"United States"

1. *Mental Diseases (insane)*

- (a) One or more Clearing Hospitals for reception, emergency treatment, classification and disposition of mental cases among enlisted men invalided home.
- (b) Clearing Wards (in connection with general hospitals for officers or private institutions for mental diseases) for reception, emergency treatment, classification and disposition of mental cases among officers invalided home.
- (c) Legislation permitting the Surgeon General to make contracts with public and private hospitals maintaining satisfactory standards of treatment for the continued care of officers and men suffering from mental diseases until recommended for retirement or discharge (with or without pension) by a special board.
- (d) Appointment of a special board of three medical officers to visit all institutions in which insane officers and men are cared for under such contracts to see that adequate treatment is being given and to retire or discharge (with or without pension) those not likely to recover.

2. *War Neuroses ('shell shock')*

- (a) Reconstruction centers (the number and capacity to be determined by the need) for the treatment and re-education of such cases of war neuroses as are invalided home. Injuries to the brain, cord and peripheral nerves to be treated elsewhere.
- (b) Special convalescent camps where recovered cases can go and not be subject to the harmful influences for those cases which exist in camps for ordinary medical and surgical cases.
- (c) Employment of the Special Board of medical officers, recommended under '1 (d),' to visit all re-education centers and convalescent camps in which war neuroses are treated to see that adequate treatment is being given and to retire or discharge (with or without pension) those not likely to recover."

This summary is followed by a detailed discussion of each recommendation. A chart illustrates the career of disabled returned soldiers.

About the care and treatment of war neuroses and mental diseases in non-expeditionary forces, Major Salmon says: "Facilities for the treatment of neuro-psychiatric cases at the camps in the United States have been approved by the Surgeon General and are now being provided. These will undoubtedly prove sufficient for dealing temporarily with mental cases developing in the non-expeditionary forces. Their final disposition should be made by means of the same mechanism recommended for expeditionary patients who are invalided home, except that the functions of the clearing hospital for mental diseases can be performed by the neuro-psychiatric wards of divisional hospitals and that of the special board by the Board of Survey composed of the neurologists and psychiatrists stationed at the camps."

Appendix I is a list of references in English to mental diseases and war neuroses and their treatment and management, including 141 entries.

Appendix II describes the use of institutions for the insane as military hospitals.*

Appendix III consists of a directory of special military hospitals for mental diseases and war neuroses in Great Britain and Ireland.

Appendix IV is a list of facilities needed for efficient treatment of mental diseases in a modern public institution.

Bost. med. and surg. j. 178: 24-25, Jan. 3, 1918. Organic Lesions in Shell-Shock (Editorial)

Recent observations on the various fronts tend to show that shell-shock is the expression of a cell-exhaustion of the central nervous system. It is generally accepted by neurologists that this exhaustion is accompanied by pathological lesions of the cytoplasm. It is, perhaps, doubtful whether this change is invariable, and the laws governing it are still very imperfectly known, but, as a broad fact, it is certainly true. Such lesions may be divided into two main groups. First, those which are visible after proper staining of some particular cells or substance of the brain. These have been observed recently, and they seem to lie at the root of fatal cases of shell-shock. Secondly, those which connote a diminished potentiality for the development of nerve force of such a nature as to impair the value of the cell. These are types of degeneracy which appear in spite of a satisfactory military training and environment. It is this latter class that alienists like Sir George Savage and Sir Robert Jones have described in the *Journal of Mental Science*. These authors seem to understand by the disposition to shell-shock a marked falling away, mentally, morally, and physically, from the average condition of the soldier or race. Thus, among British soldiers, the habitual criminal and the morally perverse, the mentally unstable and insane, the physically weak and ill-developed are often spoken of as predisposed to shell-shock. But there are also cases in which it occurs, in spite of hygienic surroundings, the best heredity, and the most careful education. It follows that shock or fear or the dread of the "unknown," of sufficient severity to overwhelm the will, may cause in healthy men the whole syndrome of the affection—the unconsciousness, aphasia, abasia, and pseudo-paraplegia. It is shown by Nissl and by Nonne that the power to resist the highest degree of fear, as in drumfire, explosion of mine craters, etc., necessitates the presence of the maximum nervous potentiality plus an optimum constitution. This is the meaning of Dr. Mott's phrase that many cases of shell-shock are the neuro-potentially unfit.

There are three chief views as to the causation, which have been fully discussed by Wollenberg (*Archiv für Psychiatrie*, 1916, p. 335), and more recently by two

* For abstract of Appendix II, see p. 80, Salmon, Thomas W. Use of institutions, etc.

Italian neurologists, Lattes and Gorla (Archivio di Antropologia Criminale, April, 1917). The first is, that shell-shock is not the expression of a pathological cell change, but the sign of a defect which exists in certain strains or stocks, and which most writers describe as psychoneurosis, hysteria, suggestibility, and degeneracy. On this view it is presumed that the innate nerve potentiality has been impaired by congenital or acquired hysteria and neurasthenia; it includes, besides, the types of degeneracy as seen in idiots, epileptics, and paranoiacs. In modern armies these groups are found, which obviously shows the importance of a minute family and individual history in the examination of soldiers. The second view is that the syndrome of shell-shock is not the result of defects or atavistic causes, but arises of itself; in other words, it is psychogenic. Most writers agree that these cases—the functional, emotional, the hysterical in the usual sense—are the most numerous. As Wollenberg says: "In the bulk of the cases of shell-shock (Granatkontusion) the emotional factor far outweighs the commotional." Dr. Mott and other British authorities take this view, but they have considerably narrowed the definition of hysteria.

The third classification is that the causes of shell-shock—whether they have existed *ab initio* in the soldier's nervous system or whether they are psychogenic in origin—are physical processes, organic lesions, produced by the effects of long exposure to the gases, and other results of the bursting of powerful shells. In this place reference may be made to a recent work by Homburger (Die körperlichen Erscheinungen der Kriegshysterie). This author looks upon the question in a twofold way; either the idea of pure hysteria must be abandoned, or this form of hysteria must be sharply differentiated from hysteria with organic lesions. Most neurologists at the front find it exceedingly difficult to believe in traumatic hysteria (Oppenheim's) or molecular shock (Charcot's). Actual observers found that of 74 men examined after an artillery attack, 67 showed unmistakable signs of localized organic lesions of the central nervous system.

These lesions have now been studied post mortem by Dr. Mott and Captain Hurst. They, as well as French, Italian and Russian neurologists have observed: (a) Early generalized chromatolytic changes in the cells of the central nervous system, (b) disappearance of the basophile substances, (c) extravasation of blood into the substance of the brain, (d) punctate hemorrhages with congestion of the meninges, (e) minute hemorrhages and changes due to the effects of compression and decompression, that is to say, as in caisson disease, with cerebrospinal fluid under high pressure, albumin, blood, and excess of lymphocytes. It has been noticed by several observers that the clinical signs are those of organic changes; and Homburger, Mörchner, and Nissl believe that the war has altered our conceptions of hysteria though it has produced no new type. Nissl, in particular, appears to question the existence of the "hysterical personality." Shell-shock is that condition of nervousness which results from the exhaustion of the inherent vitality of the cells. They are unable to function because they have come to the end of their physiological banking account. In fact, to Nissl most cases are due to a completely human and normal weakness, and the organic lesions, it might be added, are equally likely to be due to the action of inorganic poisons, as gas, and physical agents, concussion and commotion.

Bost. med. and surg. j. 178: 60-62, Jan. 10, 1918. Shell-Shock and the American Army (Editorial)

No medico-military problems of the war are more striking than those growing out of the extraordinary incidence of mental and functional nervous diseases ("shell-shock"). Together, these disorders are responsible for not less than one seventh of all discharges for disability from the British Army, or one third, if discharges for wounds are excluded. A medical service newly confronted,

like ours, with the task of caring for the sick and wounded of a large army, cannot ignore such important cause of invalidism. By their very nature, moreover, these diseases endanger the morale and discipline of troops in a special way, and require attention for purely military reasons. In order that as many men as possible may be returned to the colors or sent into civil life free from disabilities which will incapacitate them for work and self-support, it is highly desirable to make use of all available information as to the nature of these diseases among soldiers in the armies of our allies, and as to their treatment at the front, at the bases, and at the centers established in home territory for their "reconstruction."

England has had three years' experience in dealing with the medical problems of the war. During that time, opinion has matured as to the nature, causes and treatment of the psychoses and neuroses which prevail so extensively among troops. A sufficient number of different methods of military management have been tried to make it possible to judge of their relative merits.

Although an excessive incidence of mental diseases has been noted in all recent wars, it is only in the present one that functional nervous diseases have constituted a major medico-military problem. As every nation and race engaged is suffering severely from these disorders, it is apparent that new conditions of warfare are chiefly responsible for their prevalence. None of these new conditions is more terrible than the sustained shell fire with high explosives which has characterized most of the fighting. It is not surprising, therefore that the term "shell-shock" should have come into general use to designate this group of disorders. The vivid, terse name quickly became popular, and now it is applied to practically any nervous symptoms in soldiers exposed to shell fire that cannot be explained by some obvious physical injury. It is used so very loosely that it is applied not only to all functional nervous diseases, but to well-known forms of mental disease, even general paresis. If all neuroses among soldiers were included in these groups the use of the term "shell-shock" might be defended. But many hundreds of soldiers who have not been exposed to battle conditions at all develop symptoms almost identical with those in men whose nervous disorders are attributed to shell fire. The non-expeditionary forces supply a considerable proportion of these cases.

The medical statistics of the war are as yet untabulated. Even if the records contained the information desired it would be very difficult to state the prevalence of the neuroses on account of the defective nomenclature employed. It is doubtful if there is another group of diseases in which more confusion of terms exists. Nervous or mental symptoms coming to attention after the soldier has been exposed to severe shell fire are almost certain to be diagnosed as "shell-shock," and yet when such patients are received in England, well-defined cases of general paresis, epilepsy, or dementia præcox are often found among them. This source of confusion tends to swell the number of cases reported under the term "shell-shock," but there are many other sources of error which tend to diminish the apparent prevalence of the war neuroses. It is the belief of those who have made an effort to ascertain the prevalence of the war neuroses that the rate among the expeditionary forces is not less than ten per thousand annually, and among the home forces not less than three per thousand.

The experience of the British "shell-shock" hospitals emphasizes the fact that the treatment of war neuroses is essentially a problem in psychological medicine. While patients with severe symptoms of long duration recover in the hands of physicians who see but dimly the mechanism of their disease, and are unaware of the means by which recovery actually takes place, no credit belongs to the physician in such cases and but little to the type of environment provided. In the great majority of instances the completeness, promptness and durability of recovery depend upon the insight shown by the medical officers under whose charge the soldiers come, and their resourcefulness and skill in applying treatment.

The resources at the disposal of the physician in treating the war neuroses are varied. The patient must be reeducated in will, thought, feeling, and function. Persuasion, a powerful resource, may be employed, directly backed by knowledge on the part of the patient as well as the physician of the mechanism of the particular disorder present. Indirectly, it must pervade the atmosphere of the special ward or hospital for "shell-shock." Hypnotism is valuable as an adjunct to persuasion and as a means of convincing the patient that no organic disease or injury is responsible for his loss of function. Thus, in mutism, the patient speaks under hypnosis or through hypnotic suggestion, and thereafter must admit the integrity of his organs of speech. The striking effects of hypnotism in the removal of symptoms are somewhat offset by the fact that the most suggestible who yield to it most readily are particularly likely to be the constitutionally neurotic. A mental mechanism similar to that which produced the disorder is being used in such cases to bring about a cure.

The experience in English hospitals has demonstrated the great danger of aimless lounging, too many entertainments and relaxing recreations, such as frequent motor rides, etc. It must be remembered that shell-shock cases suffer from a disorder of will as well as function, and it is impossible to effect a cure if attention is directed to one at the expense of the other. As Dr. H. Crichton Miller has put it, "Shell-shock produces a condition which is essentially childish and infantile in its nature. Rest in bed and simple encouragement is not enough to educate a child. Progressive daily achievement is the only way whereby manhood and self-respect can be regained."

It is evident that the outcome in the war neuroses is good from a medical point of view and poor from a military point of view. It is the opinion of all those consulted that, with the end of the war, most cases, even the most severe, will speedily recover, those who do not being the constitutionally neurotic and patients who have been so badly managed that very unfavorable habit-reactions have developed. This cheering fact, however, brings little consolation to those who are chiefly concerned with the wastage of fighting men. The lesson to be learned from the British results seems clear—that treatment by medical officers with special training in psychiatry should be made available just as near the front as military exigency will permit, and that patients who cannot be reached at this point should be treated in special hospitals in France, until it is apparent that they cannot be returned to the firing-lines. As soon as this fact is established, military needs and humanitarian ends coincide. Patients should then be sent home as soon as possible. The military commander may have the satisfaction of knowing that food need not be brought across to feed a soldier who can render no useful military service, and the medical officer may feel that his patient will have what he most needs for his recovery—home and safety and an environment in which he can readjust.

Although it might be considered more appropriately under the heading of prevention than under that of treatment, the most important recommendation to be made is that of rigidly excluding insane, feeble-minded, psychopathic and neuropathic individuals from the forces which are to be sent to France and exposed to the terrific stress of modern war. Not only the medical officers but the line officers interviewed in England emphasized, over and over again, the importance of not accepting mentally unstable recruits for military service at the front. If the period of training at the concentration camps is used for observation and examination, it is within our power to reduce very materially the difficult problem of caring for mental and nervous cases in France, increase the military efficiency of the expeditionary forces, and save the country millions of dollars in pensions. Sir William Osler, who has had a large experience in the selection of recruits for the British Army and has seen the disastrous results of carelessness in this respect, feels so strongly on the subject that he has recently made his views known in a letter to the *Journal of the American Medical Asso-*

ciation, in which he mentions neuropathic make-up as one of the three great causes for the invariable rejection of recruits. In personal conversation he gave numerous illustrations of the burden which the acceptance of neurotic recruits had unnecessarily thrown upon an army struggling to surmount the difficult medical problems inseparable from the war.

Neuroses are very common among soldiers who have never been exposed to shell fire, and will undoubtedly be seen frequently among non-expeditionary troops in this country. In England nearly thirty per cent of all men from the home forces admitted to one general hospital were suffering from various neuroses. Most of these men were of very neurotic make-up. Many had had previous nervous breakdowns. Fear, even in the comparatively harmless camp exercises, was a common cause of neurotic symptoms. Heart symptoms were exceedingly common. The same experience in our own training camps can be confidently predicted.

Bailey, Pearce. War and Mental Diseases.* Amer. j. pub. health 8:1-7, Jan. 1918

The address outlines the methods used by the medical department of the United States army in meeting the problem of mental and nervous troubles arising in connection with military service.

A rather elaborately organized psychiatric service has been established to eliminate the unfit and to care for mental and nervous cases. The large number of insane, epileptics, defectives, etc., recorded in the medical history of former wars, the enormously larger porportion in the present war, and the early lack of facilities to meet the problems created by these conditions led to the establishment of such a service by the Surgeon General of the United States army. After the declaration of war by this country, specialists in these lines were called for to take commissions in the medical reserve corps, and a large number of volunteers presented themselves for the work. The number of medical reserve officers holding such commissions was at the time of the delivery of the address more than 200. Some were stationed at the various camps, some went abroad to study in special hospitals, and others remained in the United States to do work in special clinics.

The types of mental and nervous cases found in connection with military service are, in the order of their frequency, mental defectives, epileptics, ne'er-do-wells, psychopaths, and syphilitics. Mental examinations are now being used at the recruit depots and in the training camps in the endeavor to eliminate as many as possible of the above types of mental and moral defect and psychopathic inferiority. "The volunteers coming to the recruit depots have a large percentage—3% to 5%—of unfit. The national guard and national army have been mobilized for too brief a period to make it possible to say what their percentage will be. We have watched with the greatest care the officers' training camp. . . . In that fine body of men . . . the finest lot of young men in the world, from 1½% to 2% are nervously unfit for war."

All the above methods have been applied by the Surgeon General in eliminating the mentally and nervously unfit for service. For the care and treatment of cases of "shell shock" special hospitals have been built, special offices have been created, and a special personnel of enlisted men has been collected. Nurses specially qualified to care for nervous patients are being sent abroad and will serve on the staffs of the regular base hospitals, the small hospitals and the rest homes for suffering soldiers.

Colonel Bailey concluded his address with a discussion of the many lessons that the civil community will learn from the war, especially along the lines of neurology and psychiatry.

* Report of an address delivered at the General Session of the American Public Health Association, Washington, D. C., October 19, 1917.

Journal Amer. med. assoc. 70:714, March 9, 1918. Mechanism of Shock (Paris Letter, Feb. 7, 1918)

At one of the recent meetings of the Academy of Sciences, Dr. Marage discussed the grave phenomena observed among soldiers as the result of the explosion of large shells. He said that while there was no apparent lesion, the wounded presented the following symptoms, all of which might be present in any one patient: loss of memory, of equilibrium, of vision, of hearing and of speech. These symptoms disappear gradually in from six to eight weeks, or they may persist for years, and unless treated, they may become permanent. Marage explains these symptoms as being due to the effects produced by the high explosives employed in this war. It is known that the velocity of the sound wave is 333 meters per second under the atmospheric pressure; but in the neighborhood of an exploding shell the speed of the shock wave may be as great as 2,000 meters per second, a velocity happily attenuated very quickly, for even at 60 meters the velocity becomes merely that of sound. But in that danger zone of 60 meters, the pressure is increased as high, even, as 200 kilograms to the square centimeter, but this pressure lasts only 1 or 2 hundredths of a second. Furthermore, in the danger zone the increase of pressure is not uniform, and in the zone of action there may be dead sectors. The intensity of these zones of action is unequal, being stronger toward the sides than toward the front and rear. This explains why soldiers in the same zone present extremely variable central lesions. Under the influence of this enormous increase in pressure, the blood is forcibly driven toward the center, hence toward the brain. This sudden tidal wave of blood would be always fatal if the capillaries by their resistance did not check it somewhat. Marage concludes from this that it is not by any means always the middle ear which is the cause of war deafness, but that the whole body surface is responsible. The ear protectors are very useful in certain cases, but unfortunately they do not protect against this kind of deafness.

Gordon, Alfred. The Problem of "Neurotics" in Military Service. Med. rec. 93: 234-37, Feb. 9, 1918

A. Gordon in a practical article emphasizes the very great importance of the early recognition of this type of man, and points out the grave dangers of his continuance in war service. He draws accurately the picture of this class of cases which are most liable to become unbalanced under severe mental or physical strain, and the grave consequences of such breakdown to the man and the service. The author suggests that a closer inspection of the family and personal history would probably lead to the discovery before enlistment of large numbers of these cases, and that if such cases were eliminated before they reached the training camps, much expense to the Government would be saved and greater efficiency result. The author's suggestions seem to be of great importance.—E. H. R., Bost. med. and surg. j. 178: x, May 9, 1918.

Journal Amer. med. assoc. 70:866, March 23, 1918. War Tremors (Paris Letter, Feb. 21, 1918)

At one of the recent meetings of the Société de neurologie, Drs. Henry Meige and Mme. Bénisty presented a number of patients afflicted with tremors, and emphasized particularly the clinical characters which permit of a differentiation between tremors of organic origin and those of a neuropathic or emotional origin. Among the organic, they insisted on the morphologic and physiologic objective characters of the parkinsonian type, of which they presented a characteristic example consecutive to traumatism. They also showed cases of nervous tremors the result of wounds or of concussion, and also cases of tremors antedating the

war, occurring among emotional subjects. They distinguish, besides true tremor, clonic movements which are sometimes confounded with the latter, and which are the result of certain lesions of the peduncular protuberance. In the clinical diagnosis it is essential to examine with care the seat and the form of the tremor. When it is confined to the fingers and is fine and rhythmic, it is nearly always of organic origin. One frequently sees a nervous tremor involving only the flexors and extensors of the wrist, or the pronators and supinators without any involvement of the fingers. When studying a tremor it is essential to determine by manual palpation the sensations experienced while mobilizing parts of the limb. The waxy flexibility, *flexibilitas cirreuse*, of Parkinson's disease, is clearly distinct from the cog wheel resistance, *résistance à crans*, perceptible in the majority of nervous tremors, and evidenced by a succession of contractions and relaxations, more or less brusque, occurring at regular intervals.

The evolution of a tremor is also of diagnostic value. It may be (1) progressive, localized at first in one member or in part of a member, but progressively involves one or more of the other members. Parkinson's disease belongs in this class. Or the tremor may be (2) retrogressive, generalized at first but tending gradually to become localized in one member or part of a member. This evolution is characteristic of tremors of neuropathic origin. There is further (3) the migratory tremor, whose localization varies, as do likewise its extent and time of appearance. The migration of the tremor may occur spontaneously. It can be rendered more apparent by changing the position of the member, or if one or more parts or segments are immobilized.

Meige and Bénisty also called attention to the necessity of morphologic examination, which enables one to appreciate the state of permanent hypertonicity of certain persons with tremor, a phenomenon to whose existence in Parkinson's disease Paul Richet and Meige have previously called attention, and which may also be seen in paratonic subjects. It is evidently a manifestation of *déstabilisation motrice congénitale*. Dr. Tinel, chef de clinique à la Salpêtrière, stated that he had observed several cases of neuropathic tremor of a member since this condition had been cured by intense faradic reeducation. He has also noted the migration of certain tremors. The neuropathic tremors are at the same time real, involuntary, persisting during sleep and even under the influence of chloral, but, nevertheless, perfectly influenced by reeducation. There exists in these cases a state of neuromuscular hyperexcitability associated with a persistent emotional state.

• Amer. med. 24: 306-07, May 1918. The Treatment of War Neuroses (London Letter, March 26, 1918)

Two different conditions, which may be described as neurasthenic and hysteroid, either of which conditions sometimes receives the name of "shell-shock," are at the present moment the subject of the anxious attention of physicians and psychologists at the front, in the base hospitals, and in the various home institutions, general or special, for the treatment of chronic cases. On the etiology of many of these cases, and therefore of their treatment, much difference of opinion has been expressed, as is shown by the fact that quite recently one famous London neurologist said that in his experience many patients suffering from so-called "shell-shock" were "shell-shy", while another gave it as his experience that deliberate malingering was very rare. The view of the writer of pensions, Mr. J. Hodge, has been publicly expressed that the admixture of shell-shock cases with "cheery chaps" in general hospitals would give good results, and Professor Elliot Smith of Manchester has demolished it with delightful scorn. Such differences of opinion indicate that different advisers find different courses advisable for the patients, for, while it is obviously wrong to congregate malingerers in any large institution where their form of weakness may spread to other patients, it is

equally obvious that for subjects requiring real neurologic care, persons qualified to give them that attention should be in attendance. Those British authorities who agree so far as to acquiesce in the necessity of having neurologic centers, differ on one point, as to the locality of those centers, some seeing no harm in keeping the patients in towns, and others desiring to send them into the quietest possible country districts. It is clear that it is easier to obtain a first-class scientific staff for an institution in a large urban center than it ever could be for homes scattered up and down the countryside, a practical reason which has to a great extent dictated the geography of the various institutions.

The question of receiving shell-shock patients into London institutions has been complicated by the fact that London is subjected to aerial bombardment, the effect of which upon the shell-shocked patient may well be regarded with apprehension. It is undoubted that in some of the hospitals in the London area the raids have an ill effect upon those patients, although the amount of damage done to them seems to have been considerably exaggerated, while the stories of panic spreading from patient to patient lack all authority and are backed by no evidence. On the other hand, categorical statements have been made by certain medical officers that no ill effect of any marked sort can be observed among the shell-shocked patients on the nights of German air raids, and that, where individual patients have shown signs of breakdown, it has been easy to restore their equanimity, and noticeably that on later occasions in similar circumstances that equanimity was preserved. The arrangements for the treatment of discharged soldiers and sailors are now made by the Ministry of Pensions and the matter of reception and treatment of cases of war neurosis forms a subject to which that department is now giving considerable attention. But the medical profession does not feel wholly satisfied with the arrangement made by the ministry to keep in touch with first-class scientific opinion, and the view has been expressed in no uncertain terms that the ministry ought to provide itself with an advisory committee of general physicians and surgeons, experts in various special directions, so that errors which have certainly been committed in the treatment of soldiers and sailors discharged under the heading of neurosis should for the future be avoided.

Bailey, Pearce. Malingering in U. S. Troops, Home Forces, 1917; Bulletin compiled from Reports of Medical Officers. Mil. surg. 42: 261-75, 427-49, March and April 1918

Malingers in a military environment may be divided into two groups: (1) those that feign symptoms with full knowledge, interest and responsibility, and (2) the constitutionally inferior individuals who are never able to face disagreeable situations without complaint and deceit. With the progress of medicine the number of cases of group 1 has decreased whereas group 2 has increased considerably. "One surgeon expresses himself as convinced 'that in almost all of the cases in which defects were simulated or exaggerated, the patients were actually defective either in a lesser degree or in a different affection or in both. Whether the malingering took the form of mental or nervous or physical defects it was based, in almost every instance, on an actual unstable or defective mental state.'"

Malingering is more frequent at the National Army camps than at the National Guard divisions, but even here it has never exceeded 1% of the whole command. The motives that lead men to feign disability are varied. By far the most common purpose is to evade service, and therefore the presence of malingering among drafted men has been more marked than among those that have enlisted. There are some men who apply honestly for enlistment, but who later feign symptoms in order to be dismissed; others apply with the deliberate purpose of being rejected for physical unfitness so that they may avoid being drafted into the service. Every minor ailment is often exaggerated because the men wish to avoid un-

pleasant duties. On the other hand boys of fifteen, sixteen, or seventeen often pass as eighteen or over in order to enter the service. Sometimes men will conceal disabilities and diseases in order to join the army. This is especially true of alcoholics and epileptics. Often soldiers accused of delinquency will claim a medical examination to obtain exemption from punishment. Less frequently men will try to obtain transfers to different divisions, such as the Quartermaster's Corps or the Medical Corps where they believe the work to be easier and less perilous.

Suggestion is an important factor in malingering. This may come from remote sources such as the idea of being weak or delicate before entering the army and the probable breakdown resulting from the strain of army life, or the symptoms may be transferred suggestively from one man to another in the same company. To understand cases of this kind, the medical officer must establish relations with the recruits whereby the real nature of the malingering is disclosed.

There are very few malingerers of the criminal type. Most malingering is done in a crude way and so is easily detected. For the detection and cure of malingering the examining officer must both recognize the self-induced factitious conditions and estimate the degree of exaggeration in complaints of actual or preexisting diseases, conditions or injuries. A brief stay in the hospital is usually sufficient to disclose the self-induced symptoms. When there is a suspicion that existing ailments are exaggerated, the medical officers must decide whether or not the alleged suffering, compared with conditions actually found, is beyond medical experience. After this point is determined, the motives which led to the exaggeration must be discovered. This can be done best by studying the soldier's personality, his home and school life, his business career, and his own ideas concerning his health.

The various disabilities that are feigned may be listed under (1) disturbances of vision, (2) disturbances of hearing, (3) general medical, (4) general surgical, (5) nervous and mental conditions, (6) factitious conditions including wounds, and (7) bed-wetting. Many tests for the detection of physical disabilities are described in detail. However, in spite of the fact that most malingerers are psychoneurotics, few of them ever feign mental or nervous diseases. Insanity, however, is easily recognized as feigned by the failure to produce any clinical type or by absurd statements and actions. Mental defect is feigned frequently, for the most part by illiterates and foreigners, who, because of their ignorance of the language, feel that they can display an unnecessary amount of stupidity. Knowledge of the home environment, and, in the case of foreigners, an interpreter are necessary for their detection. The discovery of simulation and management of cases that complain of pain and hyperesthesia is as follows: "Failure to correspond in distribution with true clinical types. History often quite inconsistent with type of pain complained of. Absence of the ordinary traces of prolonged pain, and of the other symptoms which usually accompany type of pain complained of. When referred to limited areas, absence of the sharply localized painful points characteristic of neuralgias. Behavior of patient (when he thinks himself unobserved) to be carefully noted." Tremors are frequent in the early days of training, as a result of unusual exertions. If accompanied by other symptoms the etiology should be determined. Anesthesia is frequently present in neurotic persons. Complaint of this condition however indicates malingering since genuine patients rarely realize its existence. "The most reliable means of detection consists in its failure to reproduce the clinical picture of the various diseases in which it occurs, and the faulty association with other symptoms." Epilepsy is frequently imitated since it is a common cause of discharge from the army, but the fits are usually imitated in a clumsy fashion, or when no physicians are present. However it is doubtful as to whether men that can imitate grand mal epileptic attacks can be made into desirable soldiers or not. It is probable that they are constitutionally neurotic. A verified history of previous attacks is

always necessary. In attacks of true grand mal, the pupil does not react to light for a short time after the attack, the Babinski reflex is present and the knee jerks are lost. In malingering the initial cyanosis of the epileptic is wanting and the tongue is seldom bitten. Frothing at the mouth is reproduced by filling it beforehand with soap suds. Hysteria is rarely chosen by malingerers although it is difficult to detect as feigned. "The symptoms of hysteria never reproduce those of organic disease but they come closer to it than is possible to any conscious simulator, and whenever there is a reasonable doubt as to whether a man is really pretending or not, the chances are that a hysterical element is strongly represented in the case." This question comes up most frequently in cases of paralysis and of contractures of the muscles of the back. The use of the Faradic current usually proves or disproves the presence of organic paralysis, either peripheral or central by determining the type of symptoms and the way in which they are associated. Cases in which the back is held stiffly forward or laterally may require an X-ray examination for determining the absence or presence of disease of the vertebrae. These contractures however are usually associated with the belief on the patient's part that he has an actual disease of the spine or kidneys and clear up rapidly under the usual methods of treating hystero-malingerers.

Pretended alcoholism or drug addiction is sometimes made a basis for exemption from service. These cases are detected when, deprived of the drugs, they show no deprivation phenomena.

Various other conditions are artificially created or simulated, such as amputations, self-inflicted wounds, teeth extractions, inflammations of the skin by the use of irritating chemicals, retention of urine, etc. Bed-wetting is of frequent occurrence since it is easy to assume, difficult to detect when simulated, and often leads to discharge.

Major Bailey closes his report with a brief discussion of the conscientious objector.

Med. rec. 93:781, May 4, 1918. Convalescent Homes for Neurasthenic Cases (London Letter, April 4, 1918)

The Minister of Pensions, Mr. John Hodge, is finding himself in considerable opposition to the best medical opinions in the attitude which he has taken up with regard to the homes of recovery which are being instituted for neurasthenic and shell shock cases. Mr. Hodge has official medical opinion to rely upon, but either this opinion is not as well informed as it should be or he is preferring to listen to the popular view. The popular view is that the neurasthenic patient requires cheering up by intermixture with other patients, and also that as his condition can often be attributed to what is vaguely labeled "shell shock", it is particularly important that the institution into which he is received should be outside the area of possible or probable air raids. Of course, no patients ought to be placed within a danger zone if it is possible to accommodate them outside. But there has obviously been great exaggeration of the ill effects displayed by the shell-shocked patients after subjection to an air raid. So far from being more agitated than any other members of the population, when judiciously handled they bear the ordeal with perfect calm. A limited number of neurasthenic cases may improve when mixed up with a general hospital population. Some also may only require ordinary treatment in a convalescent home, or can be boarded out as country visitors, or may be added to the population of village centers, but as a rule those suffering from functional nervous disorders require special treatment which can only be given in special institutions. The scattering of neurasthenic patients in various directions on the chance that a proportion of them may get better is a policy directly opposed to that intensive treatment of disease which has proved in every department of surgery and medicine to be

the really efficient way of dealing with the pathological results of the war. The War Office has taken a better line than Mr. Hodge, in the opinion of real neurologists, when the military authorities issued a recommendation that all soldiers suffering from a functional nervous disorder should be segregated for treatment into special hospitals immediately on their home arrival, and that such hospitals should be staffed by medical officers interested in and specially trained for, the work. There is a strong feeling in medical circles that the Ministry of Pensions should be provided with some sort of advisory medical council so that the minister might be kept in better touch with scientific medicine. Undoubtedly it is a popular belief that it does the neurasthenic patient good to be cheered up by the merry convalescents from minor surgical injuries, but official support of this belief may produce feelings of considerable anxiety among the relatives of neurasthenic patients who are receiving the proper treatment on intelligent segregation and individual scientific attention.

• **Journal Amer. med. assoc. 70: 1554, May 25, 1918. Special Commission for Surveillance of Outcome of Nervous and Mental Disease in Soldiers (Paris Letter, April 18, 1918)**

Conforming to the plan adopted December, 1917, at the reunion of the chiefs of the centers of neurology and psychiatry and by the Société de neurologie, the undersecretary of state for the Service de Santé Militaire has decided on the creation of a special commission for supervision of the results of treatment of nervous and mental disease in soldiers. This commission is charged with the technical control of the neurology and psychiatry centers, and also the solution of medicolegal questions in debatable and rebellious neurologic or psychiatric cases (convalescence, temporary or permanent invaliding, military sanctions, etc.). The committee is called to functionate principally for cases treated in the special centers for functional reeducation and exceptionally for other cases which will be submitted by the undersecretary of state for the Service de Santé Militaire. As a rule, the commission will examine on the spot the cases referred, to them. The commission is composed of Drs. Achille Souques, médecin des hôpitaux de Paris, Ernest Dupré, professeur agrégé à la Faculté de médecine de Paris, et médecin des hôpitaux, Henri Claude, professeur agrégé à la Faculté de médecine de Paris et médecin des hôpitaux, and Dr. Froment.

• **Journal Amer. med. assoc. 70: 1554, May 25, 1918. The Treatment of Shell Shock (London Letter, April 30, 1918)**

The large number of men discharged from the army because of shell shock presents a new problem. They have been treated in a long series of military hospitals, where every effort has failed, and finally they have been sent out into the world physically sound but mentally broken down, incapable of work and unfit even to go home to their families. Like many other new problems presented by the war, experience and energy have solved this one. Special hospitals have been established for the treatment of such men with excellent results. The patient is first put to bed in a room alone and the physician brings mental influence to bear on him, for drugs are of little use. He is encouraged to regain his lost will power. The next step is to put him in a room with suitable companions and rouse his interest in things outside himself. At first he is very unsociable because he has lost self confidence; but sooner or later he begins to mix with his fellows and then plays billiards, cards, or other games. In the gymnasium, systematic exercises are then performed under an instructor. Various forms of work, of which carpentry and bootmaking are the most popular, are next undertaken. At first the patients work only an hour in the day, then two, and so on until six hours are attained. Other trades taught are engineering,

electric light work, motor construction, and intensive gardening. Two thirds of the patients return to their former work, and one fourth are made useful workers in some other line. Thus complete recovery takes place in eleven out of twelve cases.

Sexton, F. H. Vocational Rehabilitation in Canada of Soldiers Suffering from Nervous Diseases. Mental hygiene 2: 265-76, April 1918

Although it was expected that many men in the armies would not be able to endure the mental strain of war, hardly any one was prepared to find that so large a proportion of discharges would be due to nervous troubles. "In England nearly 20% of the 175,000 pensioners are suffering from functional nervous disease and the greater part of these have not been actually wounded. In Canada over 10% of all the 25,000 men who had returned up to October 1, 1917, were classified as mental cases. This category included insanity, shell shock, neurasthenia, etc. If those who were returned as over-age, under-age, and for duty are excluded, the mental cases represent 15% of the invalids, and if those suffering from actual wounds are not counted, the mental cases constitute 25% of all those returned from the Canadian army in England and France. From a purely military point of view this factor of war neurosis is highly important where so many men have to be discarded for mental causes. From an economic standpoint, the treatment of so large a percentage of invalids in order to re-instate them in productive work is a serious matter."

During the early part of the war mental and nervous cases were removed from the front lines and even sent to England for treatment, but when German submarines began to sink hospital ships, neurological centers had to be established in France. These are usually situated in the immediate rear out of range of all but the largest guns. "A special shell shock hospital is run in conjunction with a clearing hospital in each area. Each individual soldier is looked upon as a separate case. . . . The doctors, nurses and staff are all carefully selected for their special abilities and personalities. The atmosphere of the institution is a deliberately planned mixture of firmness and kindness. It has a military tang, but is not so impersonal and severe as the army. All the staff are expected to radiate optimism and cheerfulness. The patients are kept as far as possible from introspection. . . . Quick recoveries are the rule and a high percentage of the men return to the trenches inside of a month or even a fortnight. An expert French medical officer in charge of one of these centers reports that 91% of the cases received in a four-month period were sufficiently recovered to send back into the fighting line. . . .

"If the patients do not show signs of quick recovery they are sent to the base or to England. If they are Canadians and will not be fit again for six months they are sent home for further treatment before discharge. . . . If the men are suffering from a form of mental disease that treatment will not benefit, they are sent to the hospital for the insane in the province to which they belong. The government pays for their maintenance and if the man is married, his wife gets the same pension for herself and her children as if her husband were dead. If the case is severe and needs more careful diagnosis and treatment, the man is sent to the Central Hospital for Nervous Diseases at Cobourg, Ontario. . . . From here, patients may be discharged to hospitals for the insane, to regular convalescent homes, or to civil life."

Sexton quotes statistics as to types of war neuroses from Cobourg reports. "Hydrotherapy and electrotherapy are used with most gratifying results, but some form of vocational training is depended upon to build up the will and initiative of the patient. . . . He is first told that his nervous disability does not at all unfit him for success in some civilian occupation, but that it is severe

enough to debar him from any further military service. This sets his mind at rest about being returned to the army, and directs his attention to the future." He is then given some light occupational work upon which he spends at first only an hour or two a day, but the time is gradually increased until he is working all day. Then he is promoted to classes requiring more skill and effort, and so on. Judicious praise is employed, but no "mollycoddling" is allowed. If the patient is much interested in his work, very little attention is paid by the doctors to his ailments, so that his mind may be kept entirely concerned with things other than his own condition. . . . "When the patient is fit to return to civil life, he goes back to his own job, or enters a course in another institution, or else is apprenticed in industry to gain the knowledge and skill necessary for his success in some regular occupation.

"The institutions most necessary for treatment of these men are convalescent homes, not hospitals. . . . The homes are usually situated near large cities so that expert medical services may be secured, and each has a capacity of from 300 to 1,000 patients. In order to make proper use of the time of the soldier during the day, vocational training was introduced into every home, and now the vocational building is an integral part of every new building plan." At first admission to classes was voluntary, but the treatment so quickly proved its value that after a brief time vocational work was made compulsory for all men not excused as unfit by the medical officer. Instruction is given in English, French, arithmetic, stenography, bookkeeping, typewriting, telegraphy, woodworking, shoe repairing, mechanical and architectural drawing, care and operation of automobiles, machine-tool operating, electrical wiring, gardening, poultry-farming, etc. The daily program requires from four to four and a half hours of attendance. Each man is allowed to make his choice of classes.

To nervous cases the making of novelties and hand-wrought jewelry has proved especially interesting. The articles made may be kept by the patient if he pays for the raw materials, or they may be sold at reasonable prices as war souvenirs. In this way many a patient has made enough to serve as a nest egg with which to start life again when discharged. Very few nervous patients can be interested in work requiring mental effort; they like best creative work with the hands. Light woodworking and machine-tool operation have proved popular with shell shock cases. A machine shop is too noisy for most nervous patients, but some have achieved great proficiency as machinists in spite of this drawback. Farming is beneficial to those who lived in the country before the war, but former city-dwellers seem to find the isolation and quiet routine of farm life an aggravation rather than a help. But no rules for choice of occupation can be formulated. It is necessary to find the line of work in which the particular case is most interested and then to furnish instruction in it. Mild cases should be directed toward recognized wage-earning work as they will thus the more readily regain initiative and self-confidence. Many cases have left the convalescent homes fitted to take up work in which they have been more deeply interested and in which they have received greater remuneration than in their pre-war occupations.

"The vocational training in the convalescent homes is only incidental and supplementary to the medical treatment. When a man becomes an arrested case he is discharged whether he has finished a course or not. If he is then unable to follow his old trade successfully he is a subject for vocational re-education. He is brought before a Disabled Soldiers Training Board, composed of a special medical officer, a vocational officer, and a layman who may be an employer, a labor organizer, a business man, a professional man, etc., representing the public. The man's desires and former occupation, together with his disability are carefully considered, and he is advised in regard to the vocations he may enter with probability of success. He, however, makes the choice himself so that he has the greatest stake in his future training. The effort is made to keep him as close

as possible to his former work so that his industrial experience and skill may not be altogether scrapped. It is very evident that, if possible, he should be moved up to a position of greater skill and responsibility where he must use his intelligence more and his physical strength less. This is often possible, but is not usually the case. The attempt is then made to place him in some occupation in the same industry, but parallel with his former work where his disability is not a serious handicap. If the central authorities at Ottawa concur in the recommendation of the Disabled Soldiers Training Board, the man passes out of the Army and becomes a civilian under the control of the Vocational Branch of the Military Hospitals Commission. He receives special pay and allowances running from a minimum of \$46.00 a month, if he is a single man with no dependents, to a maximum of \$93.00 a month in the case of a married man with five or more children under sixteen years of age. This allows him and his dependents to live respectably while he is getting his training. He may be sent to a technical school, a college of pharmacy, an agricultural college, a business college, a navigation school, or other special institution or he may be regularly apprenticed in an industry. The courses usually last six to twelve months and are entirely free of cost to the man. He is given an extra month's pay at the end of the course, a position is found for him, and no deduction is made from his pension because of any proficiency or wage-earning power he has acquired at the expense of the government.

"Thus Canada is trying to place the disabled men on their feet again in civilian life. The attempt is being made to eliminate the most pitiful by-product of war, the 'old soldier'. Having before her the experience of the United States after the Civil War, Canada is determined to have no crop of 'carpet-baggers', pension mongers, and government alms-takers with the consequent commonplace filching of national funds and degeneration of civic honesty. The gospel of the busy life for everybody is being preached and practiced among the returned invalid soldiers. Salvation through honest work applies to the hero home from France as much as to the mental defective or social delinquent. The satisfactory results already achieved in Canada stamp the vocational training and re-education as the most hopeful activities in rehabilitating the men who have placed their bodies and brains as a barrier against the horrible flood of German ideas that threatened to overflow the world, and who have given freely of themselves in this glorious service. The goal is to make the soldier's disability his opportunity and to prove that his sacrifice will furnish him a staff with which to support himself instead of a millstone to drag him down."

N. Y. med. j. 107: 850-51, May 4, 1918. The Mentally Defective Soldier (Editorial)

For the first time in the history of warfare mental hygiene, as practised among soldiers, has been given the prominence it deserves, and, profiting by the experience of England and France in the present war, the Surgeon General was impelled to inaugurate an elaborate organization, both in numbers and in plan, to take care of any mental disturbances detected in the camps or among soldiers during the war. This is a distinct innovation in medical army work, for the subjects of mental hygiene and of mental and nervous disease in general as occurring among soldiers in war time were for many reasons either slightly treated, or neglected altogether.

The outlook for those affected mentally during the war is rather brighter than among those in civil life, and Lieutenant Colonel Pearce Bailey (American Journal of Public Health, January, 1918) finds the rate of recovery varying up to seventy per cent, (Doctor White's statistics of the Spanish war), as contrasted with the twenty per cent or twenty-five per cent as found among the civilians. During peace the discharge rate from the army of those affected with

various psychoses is three men in a thousand, as compared with six or even ten in a thousand during the war, especially in expeditionary wars, that is, wars in foreign countries, when the ratio rises as high as fifty per thousand, as happened in the German expeditionary forces in the Boxer campaign. Here evidently homesickness is an important contributory factor. Insanity is the most frequent cause for discharge in the army, even more so than tuberculosis, contrary to the accepted belief.

The mental hygiene work is conducted by a staff of qualified men, who responded eagerly to Surgeon General Gorgas's appeal for specialists issued in April and May of last year. Among the cases they handle are, first of all, the mental defectives, whose conduct in the army may easily be compared to the behavior of backward and feeble-minded children in school. Their mentality is passed upon by new and rapid tests specially adapted to the urgency of the situation. The weeding out of these "stupids" is a matter of great importance in the morale of the army during war, for many a case of apparent cowardice, for which the unfortunate forfeits his life, is to be ascribed to feeble-mindedness, as the English have found in their experience during this war. Another class is the pampered son and the ne'er-do-well, subjects without stamina or basis of character or mind; the presence of such is of no value in an army, and, once found, they should be gotten rid of. Still another type is the individual who cannot possibly be made to fit within the rigid frame of the collective discipline of an army; divorced from his habitual way of doing things, unable to orient himself among the new surroundings for lack of adaptability, he soon collapses under the strain and excitement of war horrors, and thus becomes a burden on the army. It is especially important to keep in mind that all such may pass a perfect physical examination, as presumably very desirable soldiers, and this notwithstanding may be properly classified among the above enumerated cases. Even in the officer's training camps, where are gathered some of the finest specimens of young manhood, among candidates the two most important qualifications of the successful soldier, the ability to obey and the quality of initiative and independence whenever the occasion demands, there are between one per cent to two per cent nervously unfit for war.

Amer. med. 24: 265, May 1918. The Reconstruction of Men (Editorial)

The reconstruction of men and the industrial rehabilitation of the nation involves a new phase of work for the medical profession. The real results of medical care are not to be gauged by the physical restoration of the individual, but in terms of his psychologic and industrial restoration. A new type of medical work will be developed combining medical experience, educational ability, a knowledge of the psychology of work and workers, an understanding of the nature and strains of various industries, together with a high degree of educational resourcefulness. The occupational therapist will become a prominent factor in the future development of the program for rehabilitating those disabled by war. Unfortunately, inadequate attention has been given to the relation of this problem to those crippled in the struggle for existence, those who have suffered from the all too numerous accidents which have characterized our industrial development.

The place of occupational therapy in the treatment of neurasthenia and psychoses has been recognized and considerable progress has been made in this direction. The problems of occupation involved as a result of blindness, deafness, epilepsy, tuberculosis and similar handicapping defects and diseases have received constructive consideration and moderate attempts have been made to secure the adjustments after due training required by such physical incapacities. A broader view must now be taken, and the occupational therapist is already

in demand with a supply so limited as to require the immediate institution of training courses to remedy the lack.

The economic returns of rehabilitation are the ones which are usually urged and stressed by those interested in the organization under federal auspices of a reeducational program. From the public health standpoint, equally valuable results are to be attained as a result of the strengthening of national vitality. Gross handicaps, unfitting for employment, are responsible for the reduction of power and vitality. Industrial incapacity, with decreased economic rewards, results in lower standards of living, with consequent limitation of physical, mental and moral welfare. The health-giving environment depends upon an adequate living wage. Rehabilitation is a health problem of no mean proportions, and should engage the serious attention of the medical profession, not merely in connection with war injuries, but with those arising in every phase of civil and industrial life.

Pilgrim, Charles W. The State Hospitals and the War. N. Y. State hosp. quar. 3: 223-24, May 1918

The statistics of the hospitals for the insane in New York State for the forty-four months before the war showed 29,316 admissions; while in the forty-four months that have elapsed since the declaration of war there have been 33,311 admissions. This was a marked increase, and, as a majority of the new cases were of the dementia praecox and manic-depressive variety, it was only fair to assume that the stress and excitement of war times was the cause. Another interesting fact is that the admissions showed a marked increase in recurrent cases. It was also noticed that many cases occurred among old people who had delusions of a depressing character, such as that the end of the world was approaching, that everything was going wrong, etc., such as would be caused by the present troublous times. Another reason for the increased admissions might be that many people have gone into new employment where the work has been more strenuous and where they have made a great deal more money and have lived very different lives.

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